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THE BAREFOOT BOY

Blessings on thee, little man,
Barefoot boy, with cheek of tan!
With thy turned-up pantaloons,
And thy merry whistled tunes;
With thy red lips, redder still,
Kissed by strawberries on the hill;
With the sunshine on thy face,
Through thy torn brim's jaunty grace;
From my heart I give thee joy,—
I was once a barefoot boy!
Prince thou art,—the grown-up man
Only is republican.
Let the million-dollared ride!
Barefoot, trudging at his side,
Thou hast more than he can buy,
In thy reach of ear and eye,—
Outward sunshine, inward joy;
Blessings on thee, barefoot boy!

—John Greenleaf Whittier.



If this tired, worried, over-worked mother were using Pablum for her babies' cereal feedings, she could have slept that extra much-needed hour instead of losing her temper while her children clamor for breakfast. For she can prepare Pablum in an instant, directly in the cereal bowl, simply by adding water or milk of any temperature—salt, cream and sugar for the older child and herself.

GETTING up an hour earlier in the morning is an inconvenience for most persons, but for the mother of young babies it is a hardship, sometimes almost tragic, frequently nullifying the best-planned pediatric advice.

This is especially true in the case of the nursing mother whose supply and quality of breast milk are affected by emotional shocks resulting often in agalactia and sometimes giving rise in the baby to diarrhea, colic, and even convulsions. Furthermore, the mother's emotional stress brings about a train of behavior on her part which is reflected in the child's psychologic reactions so that a vicious circle of bad habit formation is set up.

From this angle, the recent introduction of the pre-cooked form of Mead's Cereal, known as Pablum, assumes new importance in the doctor's

psychological handling of both mother and child, quite aside from its nutritional value.*

Because Pablum can be prepared in a minute, the mother can sleep the extra hour she would otherwise be compelled to spend in a hot kitchen cooking cereal. Added rest means better poise, so that petty annoyances do not bring jaded nerves. Prompt feedings prevent many childhood tantrums, and a satisfied baby usually eats better and enjoys better digestion and growth.

*Like Mead's Cereal, Pablum represents a great advance among cereals in that it is richer in a wider variety of minerals (chiefly calcium, phosphorus, iron, and copper), contains vitamins A, B, E, and G, is base-forming and is non-irritating. Added to these special features, it is adequate in protein, fat, carbohydrates, and calories. Pablum consists of wheatmeal, oatmeal, cornmeal, wheat embryo, yeast, alfalfa leaf, and beef bone.

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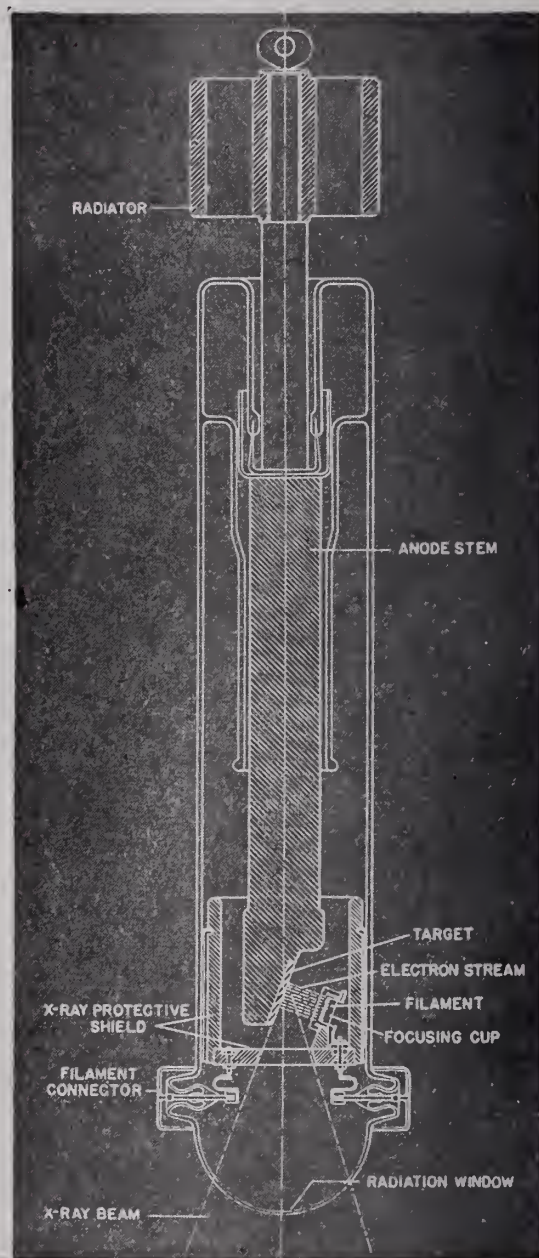
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M. D.

The Mississippi Doctor

The Journal with a vision, the delivery of modern medicine to the masses at less cost to the individual and more profit to the practitioner. The champion of the small hospital, the hub around which this service must be built.

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MISSISSIPPI STATE MEDICAL ASSOCIATION

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EDITORIALS

While the members of the state hospital association may be convinced that it was eminently proper to call upon Governor Sennett Conner to recommend to the new board of trustees in charge of all state eleemosynary institutions that those seeking admission to the charity hospitals be required to make an affidavit that they are charity cases, the public will look askance at the proposal.

It will be recalled that during the recent session of the legislature an attempt was made to destroy the charity hospitals of the state. It was proposed that funds granted the charity hospital be apportioned to the various private hospitals of the state, and literature put out by advocates of the proposal, who incidently were prominently identified with the state hospital association, frankly presented it as a sort of pork barrel proposition.

The advocates of the "distribution" proposal did not get to first base with the legislature and although appropriations granted were far less than they should be, it was made plainly evident that there was no sympathy held with the mercenary proposal.

One is reluctant to believe that the state hospital association is playing wolf with the charity hospitals cast in the role of "Little Red Riding Hood" and innocently asking "why are your teeth so sharp grandma?" but all the cards should be played above the board.

However, so long as the question has been presented, the issue is of such vital public interest that it should be met promptly and without equivocation.

Under the new set up with a centralized board of trustees, the Natchez Charity Hospital has no representation, regardless of the fact that the appropriations granted by the state are contingent upon appropriations by the city of Natchez and Adams County.

In view of the fact that the city and county contribute local taxpayers money to the hospital, we feel that even though they have been legislated out of any voice in shaping the policies controlling the hospital, that as representatives of the people, our officials should let it be known how they feel about the "pauper's oath" proposition.

Just what is charity anyway?

Must it be applied only to the mendicant class—the absolute destitute, whose circumstances have shorn them of everything including decent pride and self respect?

There are many struggling along trying to be useful citizens and raise families, whose earning will barely meet living requirements. They are honest, they are decent, they are self respecting and when a sudden emergency arises such as paying for a major operation, is nothing short of a calamity.

Some of the observers of the times claim that is an increasing trend toward socialism. They declare that the government is gradually entering every field of endeavor, business, agriculture, industry, education and social service.

Does the thought ever occur to the "pauper's oath" proponents that public opinion might be massed by "forgotten men" and the matter of medical care as a federal service be urged upon congress?

The above appeared in the Natchez Democrat of

May 9th. The editor makes a big to do about the hospital association trying to protect real charity against the politically favored going in and getting an operation when they have the money to pay. It was not the purpose of the one who raised this question to embarrass any person who was really unable to pay, just to make it possible that more of this type might receive aid. He was striking at the man who would get in his car, ride a hundred miles and get his operation at a state charity hospital and take the hundred and fifty dollars that he has in his pocket and have a good time spreeing about. As to your pork barrel proposition. The five state charity hospitals have been receiving two to three times as much as the private or small hospitals over the state, for four years the little hospitals did not have any help, and yet the state hospitals are local in reality, reach only about twenty-five percent of the population. The little hospitals over the state are not run for profit, but to serve the people. The doctors of the state and a few patriotic men and women with some help from some churches have in the main donated the money to maintain them. Great sacrifice has been made to carry medical service out to the masses at a reasonable cost. The Democrat should thank the ones who have donated to this cause, but instead he insinuates nasty things, as if the private hospitals would get rich. fifty of them, off of one hundred and twenty five thousand dollars allotted only seventy-nine, two years ago. If you want to call it "Pork Barrel legislation" say on. We prefer a small pork barrel in every county, or two or three counties, where every poor person may have a chance at a small morsel of hospital service to save his life rather than five big sugar barrels located in five cities and reaching less than one third of our population. These charity hospitals are five political footballs played with by every governor that comes into office. They have served well, but are now out of date, obsolete. The editor cries out against paying into the Natchez Hospital without having a representative on the board, in this he is right. But please be consistent. The people out at the cross roads and down by the mill have been doing this all these years and have not had even a crumb. You say they have a chance to go to the state charity hospitals. May be so, but how is a sick man to walk two hundred miles? If he had the money to pay the expenses he would not be charity. The small hospital is the means whereby modern medicine is to be delivered to every nook and corner of our state which is our greatest social and economical problem. Because we did not win in the legislature is no reason we do not have a deserving cause. It is just to the eternal discredit of the ones, the ONE and very FEW, who managed to defeat justice temporarily. And further more the editor seems to think that the medical profession and the hospitals should carry all the charity in the state gratis. We are under no more obligations to do this than the editor of the Democrat is to send you his paper free, or to do job work for nothing. The hospitals and the medical profession generally speaking have done a hundred times more than their part, the critics usually have done nothing. The indigent country folk in the rural sections have suffered taxation without benefit for years and years, but we will not continue to do so. You can not stop the mill of justice until you turn the Father of Waters

upon which you live into Minnesota, Mister Editor.—
The Booneville Independent.

Everything considered there was a fine attendance at the Mississippi State Hospital Association and the State Medical. It was good to meet at Natchez. It is the richest city in the state in historic lore. And it is exceedingly, kind, generous and friendly. It was good to be there. Natchez is quite a medical center. It has a medical atmosphere. The fellowship was fine. We would not expect less tho in a town in which men like Drs. Dicks, Ullman, Gaudet, Rice, et al. The hospital program was especially good. Dr. Fields presided well. The program was very fine. The fellowship with the adjoining states was refreshing and helpful. We were greatly honored by the presence of Dr. Bert W. Caldwell and Dr. C. Rufus Rorem of Chicago. The hospital association is going forward. Much credit is due Secretary Lippincott of Vicksburg. He is an able, a persistent and a systematic worker.

Our own Dr. Jim Hill, of Corinth, a member of the North East Mississippi 13 County Medical Society is the president-elect of the state association. Dr. Hill is just a good active safe and sound general practitioner. First of all he is one of the highest types of citizen the state affords. He is at present a member of the state legislature and has rendered fine service in many ways. The state association does well to honor a man of this type. The American Medical Association should dignify the general man in the rural community or small town occasionally to express appreciation to a private in the ranks so to speak, to dignify general practice and to indicate that after all it is just as important as any other field. The highest honor of the association worthily bestowed.

Group insurance is the question before the hospitals of the country. It is being considered for professional services also. It will most likely be more successful for hospital service than for the doctor's bills. Big prices for organization can not be afforded. Honesty on the part of every participant must be practiced if it is to be a real success. The principle of the one who keeps well helping to pay for the one who gets sick is all right. The lack of principle, a man calling for service when he really does not need it may wreck a good machine.

Call the community hospital bill pork barrel if you like, but better have a small pork barrel in every county or every two or three furnishing a life saving morsel to the forgotten man down by the mill and over at the cross roads than to have five sugar barrels in five of our largest cities supported by the entire state and available for service to less than one third of the population.

So they call the community hospital bill pork barrel legislation. Well, we better have a pork barrel in every county, or every two or three, where the poor men and women out at the cross roads and down by the mill who have paid hospital taxes all their lives without any service can get a little life saving morsel than to have five sugar barrels for the benefit of one third of the people as we now have it.

Dr. J. W. D. Dicks rounded out his year as president of the Mississippi State Medical Association in fine style. He was able in the administration of all the affairs of the association, dignified and courtly in manner, an honor to the association in every way. You will read his address with much pleasure and profit.

Dr. Hugh Gamble, of Greenville, Miss., is president-elect of the Mississippi State Hospital Association. This was a fine selection. The Gamble brothers are some times referred to as the Mayos of Mississippi. Dr. Hugh will be a safe and a sound leader.

Dr. V. B. Philpot, of Houston, is now president of the Mississippi State Hospital Association. He knows the needs of the hospitals. He operates one of the best equipped hospitals in the state. We will have more to say about him in the next issue.

Group insurance means that the man who keeps well helps to pay for the man who gets sick. This is all right. All that is lacking in the group insurance machine is strict human honesty.

It was a bright idea to have a speaker of the house of delegates. In this capacity we appreciate the services of Dr. J. P. Wall. He is able and fair.

Dr. V. B. Philpot of Houston is now president of The Mississippi State Hospital Association. He will go forward in the service.

Eighty-five percent of all practice should be done by eighty-five percent of the rank and file of the medical profession.

The professional mind, the missionary heart and the medical soul are very essential to the practitioner of medicine.

The challenge to the profession at this time is the application of the medical knowledge tried and true.

We are always glad to have Dr. Seale Harris at a medical meeting. Mrs. Harris added still further delight.

Dr. R. B. Caldwell, of Baldwyn is the newly elected Councilor for the 2nd District. He will make a good one.

The doctor who does not give more than a pill to his patient gives poor service indeed.

You will note the program of the Southern Railway Surgeons which meets in Chattanooga in June.

J. A. Majors Company of New Orleans and Dallas handle the W. B. Saunders Co. books.

The State meeting at Natchez left pleasant memories.

Beer is a fine bootlegging vehicle.

You will appreciate the poem on Dad's Day by David E. Guyton, of Blue Mountain. This was written special for The Mississippi Doctor. We think Professor Guyton is Mississippi's leading poet. The Mississippi Doctor has adopted him, and we are delighted. You will enjoy the next one in the July issue.

It will pay you to secure a copy of "The Failing Heart of Middle Age" by Hyman and Parsonnet published by F. A. Davis of Philadelphia. It is valuable. It is readable. We thank this company for an advanced copy.

Dr. E. C. Parker, of Gulfport, is now president of the Mississippi State Medical Association. We will have more to say about him in the next issue.

Book Review

"THE FAILING HEART OF MIDDLE AGE," compiled by Hyman and Parsonnet, is so valuable a book for practical clinical study of the heart during this stage of the patient's life, we do not hesitate to acclaim its value to the general practitioner, as well as to the specialist. In this age of preventive medicine, this book marks one of the first steps in bringing actual results of scientific procedures to the busy practitioner in terms of his office and bedside. So clearly defined are the discussions of each phase of cardiac disease from information secured by tried scientific diagnostic instruments, that the physician can substitute his training in the basic sciences and arrive at an estimate of the patient's condition unaided by a labyrinth of complicated instruments and procedures.

The subject matter is divided into seven divisions dealing with the specific phases of the degenerative diseases of persons of middle age and past. First, a well-defined picture of the heart and its blood vessels in the normal state, prepares the physician for the contrasts of the diseased heart. The myocardosis syndrome, coronary thrombosis and occlusion, arterial disease, angina pectoris, and the medicolegal aspects of sudden death from heart disease are taken up in detailed order. This book is readable and practical in application. It is published by F. A. Davis Company, Philadelphia, Pa. Price \$5.00.

The tired overworked family physician went away on a few days vacation. About the time he had gotten straight in his vacation home, the following telegram was received from an old friend.

"My mother-in-law is at death's door. Please come at once and help the family pull her through."

DR. SEALE HARRIS

Gastro-intestinal and Nutritional Diseases
Diagnostician

2234 Highland Avenue
Birmingham, Alabama

The Diagnosis and Treatment Of Female Sterility

CHARLES MAZER, M.D.
Philadelphia, Pa.

The study of sterility requires a more thorough understanding of the physiology and pathology of the generative associated organs than any other condition we can think of—particularly is this true of the study of functional sterility in women.

STERILITY OF THE MALE—The tendency of the profession to attribute a barren marriage solely to abnormal conditions in the female generative organs and to regard the fertility of her mate above reproach is rapidly disappearing. Husbands of sterile unions, however, still cling to this erroneous belief and show an unwillingness to submit to examination. In the search for a cause of a barren union, it is expedient to ascertain first the degree of fertility of the husband by examination of the condom specimen of semen one hour after ejaculation, preserved at body temperature during transit from home to the physician's office. The presence of less than 50 actively, motile spermatozoa to the high power field is indicative of deficient spermatogenesis, excessive or too infrequent sexual intercourse. The morphology and length of life of the sperms often decide the issue between fertility and infertility of the male. The sperm head is the greatest single source of information as to the fitness of these cells for reproduction. A relatively large number of abnormal sperm heads indicates disturbed spermatogenesis or the presence of hostile prostatic secretions. Normal spermatozoa should remain alive for hours, even at room temperature; if they do not, it shows impaired vitality. The most frequent findings in the semen are viscosity and mucus which mechanically and biochemically interfere with motility of spermatozoa. They connote a congestive or inflammatory process in the prostate or seminal vesicles. The persistent presence of large numbers of amyloid bodies in the semen is likewise indicative of low fertility.

The treatment of male sterility or relative infertility is not within the scope of this presentation. We may, however, parenthetically state that men, like women, are often sterile not only because of organic lesions within the generative tract but because of mental overwork, lack of outdoor exercise or a balanced diet and the presence of foci of infection which inhibit spermatogenesis either directly or through the medium of the anterior pituitary lobe. These patients are treated by the competent urologist and general practitioner, often successfully, on the broad principles applied in the treatment of female sterility. How often is the male responsible for a barren marriage? It is universally agreed that in 33 per cent the male bears the sole or joint responsibility for barren unions.

Assuming that you have satisfied yourself of the absolute or relative fertility of the husband or have instituted treatment which gives promise of increasing his fertility to a fair level, you now proceed to investigate the presence or absence of a discernible cause in the wife for an existing barren marriage. In most instances, you will find several factors which,

individually, may not be of great importance but the combination of which may so reduce the fertility of the woman that she is incapable of conceiving or to bear a viable child.

In this description of the necessary investigations and treatment of female sterility, an attempt is made to follow in sequential order the office routine of the practical, busy physician who depends to a large extent, on the limited laboratory facilities of his office and those of his colleagues upon whom he may call for assistance in the study and treatment of the ultra-scientific, costly, and, thus far, questionable laboratory measures recorded in the literature.

The causes of female infertility, whether in the form of an inability to conceive or an inability to carry viable offsprings, are divisible into mechanical and endocrine factors.

MECHANICAL FACTORS IN FEMALE STERILITY

(1) In the presence of a chronic infection of the cervix, with or without lacerations, we can make no further progress in the study of the case until the condition is eliminated. The best agent at our command in the treatment of a badly infected cervix is undoubtedly the stout electric cautery. It destroys the infected hypersecreting gland-bearing area without impairing the integrity and function of the cervical canal. When healing has taken place, the cervical canal is mildly dilated by means of a uterine sound in order to avoid stenosis. The procedure should be carried out during the first two weeks of the menstrual cycle in order to avoid interference with a chance and unexpected early pregnancy. It is best accomplished by the introduction of a large bivalve speculum, the upper blade of which protects the anterior vaginal wall from the acrid fumes. The cervix is freed from moisture and the stout electric cautery introduced into the cervical canal up to the internal os. The everted lips of the cervix are cauterized radially. Individual Nabothian cysts are destroyed by plunging the cautery knife into them. Very few women show more than a slight discomfort during this procedure, since the cervix is insensitive to heat. In nervous women one may introduce, as a preliminary, into the cervical canal and around the cervix pledgets of cotton saturated with a 5 per cent solution of novocaine. The patient must be told that the pre-existing leukorrhea will become much increased during the first two weeks after this treatment and that bleeding may ensue occasionally. A daily, cleansing vaginal douche is required until the squamous epithelium of the portio covers the raw surfaces.

(2) Uterine displacements are rarely factors of importance in the causation of sterility. An acute antelexion which permits the passage of a uterine sound will usually offer no resistance to the passage of spermatozoa. A pin-hole external cervical os preventing proper cervical drainage may indirectly interfere with the upward migration of spermatozoa and require correction by means of forcible or gradual dilatation. The pin-hole os is usually found in cases of arrested genital development.

Retroversion of the uterus is rarely the cause of sterility for, in these patients, one may find almost invariably, if the mate is fertile, live spermatozoa in the cervical secretions several hours after coitus, in-

dicating that the anterior position of the cervix does not prevent insemination of the cervical canal. Moreover, a movable retroverted uterus can be replaced by means of the pessary as a therapeutic test without recourse to an operative procedure of doubtful value.

The finding of 5 to 10 actively motile spermatozoa per high power field in the cervical secretions aspirated several hours after intercourse not only establishes definitely fertility of the husband, when a condom specimen is not available for examination, but also eliminates the possibility of hostility between the cervical secretions and the spermatozoa of the patient's mate. Hostility of the cervical secretions is usually accompanied by acidity, both of which in the absence of cervical infection are usually due to inadequate ovarian function to which reference will be made later.

If the condom specimen shows a sufficient number of live spermatozoa and the postcoital cervical secretions repeatedly show an absence of spermatozoa, two factors must be considered and eliminated if possible: (1) Premature ejaculation without proper insemination of the cervix. (2) Redundancy of the vaginal walls due to lacerations sustained during a previous labor, acting as a curtain in preventing insemination of the posterior part of the vagina and permitting the semen to escape before insemination of the cervix occurs. The latter can be corrected by means of a plastic operation.

(3) Occlusion of the fallopian tubes due to a pre-existing pelvic inflammation (gonorrheal, postabortal or rarely tuberculous in origin) is the most frequent single cause of absolute female sterility. It occurs in no less than 30 per cent of sterile women. The Rubin test which is, briefly, the introduction under pressure of carbon dioxide into the uterine cavity is now universally employed in the absence of cervical or tubal infection. If the fallopian tubes are patent, carbon dioxide will enter the peritoneal cavity under a pressure of 50 to 70 millimeters of mercury and give rise to pain in one or both shoulders when the patient is made to assume the erect position. We found the Rubin test a safe office procedure in more than 5,000 women.

There are many pitfalls to be guarded against if one is to avoid erroneous deductions. One is the too rapid introduction of carbon dioxide, an amount greater than the normal tubal lumen can transmit in a given time. It causes such a rapid increase in intrauterine pressure, as shown by the rapid rise of the mercury column, that nonpatency is presumed. No more than three revolutions per minute are needed for accurate determination. The test should be performed during the first ten days of the onset of the preceding menstrual flow and not after ovulation and possibly a chance fertilization has taken place, with interruption of a pregnancy so desired by the patient.

The Rubin test is not only a valuable diagnostic measure but is also, as pointed out as early as 1922 by the late John C. Hirst and the author of this paper, a valuable therapeutic measure in cases where the fallopian tubes are not totally occluded but only partly blocked by agglutination of the folds of the tubal mucosa or by inspissated mucus—residua of a pre-existing tubal infection. In these instances, one will find the mercury column rise to a height of 200 or

more and gradually or abruptly fall to the normal level of 60 millimeters, indicating that an obstruction was overcome and that the carbon dioxide flows freely through the tubal lumina. Pregnancy frequently flows in these cases after a single Rubin test. More often repetition of the procedure is necessary. Occasionally, the pregnancy that follows this measure in cases of partially blocked tubes is ectopic—a catastrophe not very serious with the modern means at our disposal to meet it.

One should not rely on a single negative Rubin test and too hastily pronounce the woman permanently sterile. Experience has shown that, for some unaccountable reason, a second Rubin test may show definite patency of the fallopian tubes.

No operation for the relief of tubal occlusion should be undertaken without the aid of a uterosalpingography in order to determine the site of the tubal occlusion. If the obstruction is at the fimbriated ends of the tubes, operative procedure offers a fair measure of success. If, on the other hand, the occlusion is at the middle or the uterine ends of the tubes, operative procedures are of doubtful value and should not be undertaken without the patient's knowledge of the paucity of results.

Lipiodol should not be employed in uterosalpingography because the introduction of the oil under pressure into the uterine cavity may cause an oil embolus or an inflammatory reaction within the fallopian tubes. The oil so slowly absorbs that it is often demonstrable in the fallopian tubes a year after its introduction. In performing uterosalpingography we now employ, at the suggestion of Dr. Theodore Neustadter, neoiopax (uroselectan) diluted with an equal quantity of a 50 per cent solution of sterile glucose. The product is opaque, does no harm when pressed into the circulation and is absorbed totally within two hours.

(4) Other mechanical causes of female sterility, such as vaginismus, uterine fibroids and ovarian cysts, may be mentioned. Their treatment is purely operative.

ENDOCRINE FACTORS IN STERILITY

PSEUDOMENSTRUATION — Regularity of the menstrual cycle cannot, in the light of our present knowledge, be taken as conclusive evidence that the ovaries and the extragenital glands, which play a role in the regulation of the sexual and gestational functions, are in a normal state. A considerable number of sterile women who menstruate regularly and who show no apparent constitutional or local abnormality to account for the condition and whose mates are known to be potentially fertile present an interesting problem in diagnosis. A majority of these patients when curetted a few days before the expected flow show no evidence of a premenstrual endometrium capable of housing a fertilized ovum, were it to reach the uterine cavity. There is ample experimental and some clinical proof that some of these women do not ovulate and if they do, the corpus luteum which follows the expulsion of the ovum is imperfect and incapable of preparing the endometrium for the reception of the fertilized ovum. The term "pseudomenstruation" was coined by Schroeder to designate menstruation from an interval endometrium. These patients usually do not show a normal

level of blood oestrin premenstrually. The diagnosis of sterility due to this condition rests upon a premenstrual curettage and examination of the scrapings. The absence of premenstrual changes is pathognomonic of the condition. The procedure can be carried out in the office under aseptic precautions. The treatment consists of an adjustment of the diet, removal of foci of infection, the administration of insulin in the thin and viscerotonic, and antuitrin-s or follutein in combination with anterior pituitary extract and small doses of thyroid tissue in the stout.

In this group of patients as well as in some amenorrheic women we often find repeatedly dead spermatozoa in the cervical secretions several hours after coitus, due solely to hostility of the cervical secretions as evidenced by the findings of normal motile spermatozoa in the condom specimen. The treatment of this condition, in the absence of a chronic cervicitis, is the administration of the follicular hormone, theelin or amniotin, in large doses, in the hope of stimulating the cervical glands and thereby modify the biochemical reaction of their secretions. Success follows this treatment in a considerable number of patients.

STERILITY AND MENSTRUAL DISTURBANCES—

Menstrual disturbances and sterility merge imperceptibly. The cure of the former often results in pregnancy in the absence of mechanical conditions to prevent it. Infrequent menstruation at best implies an associated infrequency of ovulation with a relative reduction in the chances of fertilization. Of greater significance, however, is the associated genital hypoplasia with ovaries which ovulate imperfectly, if at all.

Without a clear-cut conception of the mechanism of menstruation, the treatment of functional menstrual disorders cannot be undertaken intelligently and effectively.

Time and space will not permit us to enter into a lengthy discussion of the mechanism of menstruation. Briefly, we may state that the anterior pituitary lobe is the motor of ovarian function. A decrease in pituitary activity, therefore, results in failure of the primordial follicle to reach the stage of ovulation and luteinization. The normally developing graafian follicle secretes the follicular hormone, oestrin, commercially known as theelin or amniotin, which, in turn, reconstructs the dismantled endometrium of the previous menstrual flow. After ovulation takes place, the corpus luteum continues the production of oestrin and simultaneously elaborates another hormone, progesterin, the function of which is to prepare the oestrin-primed endometrium for nidation in preparation of the reception of a fertilized ovum. As long as the corpus luteum functions, the integrity of the endometrium is maintained. Removal of the corpus luteum or regression thereof results in menstruation. If fertilization does take place, the early imbedded ovum produces a hormone, antuitrin-s or follutein, which either directly or through the medium of the anterior pituitary lobe maintains the integrity of the corpus luteum almost throughout pregnancy and there is no menstruation.

From the foregoing brief description of the forces concerned with the menstrual cycle, it is evident that a break of a link in the chain will result either in amenorrhea or abnormal uterine bleeding, depending

entirely on the degree of the deficiency. If the follicle does not develop, the lack of oestrin stimulation of the endometrium results in amenorrhea. If the ovarian follicle develops but does not merge into a corpus luteum, the absence of the modifying influence of progesterin on the endometrium results in uncontrolled uterine bleeding.

The cause of amenorrhea or excessive bleeding after delay in the flow may be, and usually is, primarily due to a functional deficiency of the anterior pituitary gland upon which ovarian activity depends. Functional menstrual disturbance may also be due to intrinsic ovarian conditions, developmental or acquired, which render the organs incapable of responding to a normal pituitary stimulation or even to a compensatory hyperfunction of the gland. The break in the mechanism of menstruation may occasionally be found within the endometrium which was rendered atrophic by external agents, such as postabortal infections, chemical applications or repeated forcible curettages. In these instances, blood and urine studies will show a normal production and excess excretion of the follicular hormone, incapable of concentration within an endometrium rendered pathologic. The successful treatment of sterility due to functional menstrual disorders, therefore, depends upon our ability to ascertain the cause of the condition.

PITUITARY DEFICIENCY—The pituitary deficiency most often encountered in sterile women suffering from menstrual disorders is the well-known Frohlich's syndrome (adiposogenital dystrophy) characterized by girdle-mons-breast obesity and an excess of facial and body hair. These patients are of the plethoric type with relatively small forearms, hands, legs and feet. They rarely, if ever, suffer from dysmenorrhea, and show a comparatively high sugar tolerance and a low dynamic action for proteins. Their uteri are small, anteflexed or retrocessed, and the vaginae are shallow. They do not, however, suffer from dyspareunia. They show no demonstrable quantity of the anterior pituitary sex hormone in the blood or urine and only a low level of blood oestrin. They may or may not have headache. Their visual fields occasionally show central contractions of a non-progressive type.

The treatment of adiposogenital dystrophy consists of the elimination of every possible focus of infection, a high protein, low carbohydrate diet, rich in the essential vitamins and calcium in organic form. The hypodermic administration of anterior pituitary lobe extract in combination with antuitrin-s over a period of months results in restitution of menstrual periodicity in only 10 to 15 per cent of these patients. If the follicular hormone, theelin, amniotin or progynon, is administered simultaneously for the purpose of overcoming the uterine hypoplasia and rendering the uterus more responsive to improved ovarian function, better results are obtained. This hormone must, however, be given in unusually large doses, far too costly for the average patient.

We have employed progynon-benzoate (chemically modified follicular hormone) in doses of 10,000 rat units hypodermically every fourth day for a period of 20 days of the month and have succeeded by repetition to induce regular menstrual flows in women who have menstruated or menstruate at long in-

tervals. The permanent effect of such costly treatment is still to be determined. Some of these patients continued to menstruate without the aid of the hormone for some time.

In cases of metrorrhagia of pituitary origin, the daily administration of antuitrin-s or follutein in doses of 100 to 200 rat units arrests the abnormal bleeding in the vast majority of instances but does not restore menstrual periodicity when there is a tendency to delay in menstruation.

There is no agent at our disposal more effective in the treatment of functional amenorrhea or metrorrhagia than low-dosage irradiation of the pituitary gland and ovaries. Over 50 per cent of women thus treated respond promptly and permanently. Our experience with this mode of treatment is based on a series of over 200 patients. Pregnancy usually follows if there are no interfering mechanical causes. Low-dosage irradiation should be given by an expert roentgenologist according to the technique employed by Ira I. Kaplan, Louis Edeiken and others.

PRIMARY OVARIAN FAILURE—A considerable number of sterile women suffering from menstrual disturbances and sterility owe the conditions to a primary ovarian failure wherein the ovaries are primarily defective and incapable of responding to the normal or even excessive stimulation from the anterior pituitary lobe. These patients are usually, but not invariably, underweight, highly nervous, alert, eccentric and superlatively feminine in their bearing. Most of them have visceroptosis and spasticity of the gastrointestinal tract and urinary bladder. The generative organs are hypoplastic and the circulating blood and urine often show an excess of the anterior pituitary sex hormone which is a compensatory phenomenon—an attempt on the part of the pituitary gland to overcome a primary ovarian disability. These patients commonly suffer from dysmenorrhea and dyspareunia. The basal metabolism and the specific dynamic action of proteins are normal. They show no visual defects and their sugar tolerance is normal. The pituitary treatment, outlined in the foregoing pages, has no place in this group of patients. Rest, removal of foci of infection, a forced diet, preferably with the aid of insulin, and the administration of large doses of the follicular hormone to overcome the uterine hypoplasia are the measures employed with a considerable degree of success. More successful, however, is low-dosage irradiation of the ovaries as previously outlined. Forcible dilatation of the cervix occasionally results in improvement of the menstrual irregularity, more often in the cure of sterility, when there are no mechanical factors involved. Diathermy to the pelvis is occasionally helpful.

THYROID DEFICIENCY—Sterility due to thyroid deficiency, as shown by a very low basal metabolism exchange, coarseness of the skin, severe constipation, apathy, headache, brittleness of the nails, etc., is rarely encountered. In these patients the administration of thyroid tissue in adequate doses is usually effective in restoring menstrual periodicity. Pregnancy occasionally follows.

RELATIVE STERILITY (HABITUAL ABORTION)

The problem of repeated abortions that occur without recognizable cause, to a large extent, is related to endocrine imbalance. Excluding parental genetic faults (defective germ plasm) which, per se, may be

of endocrine origin, imperfect development of the decidua may interfere with nidation and result in abortion.

Women with undeveloped generative organs abort far more frequently than normal women. Therefore, a chance pregnancy must be guarded against premature termination even when there is no history of a tendency to abortion. In addition to removal of foci of infection, abstinence from intercourse and institution of a liberal diet rich in the essential vitamins, especially the germ of wheat, green vegetables, milk and orange juice, the administration of the corpus luteum hormone, progestin, in the form of lipo-lutin or agomensin, when more potent products were not available, has, in our experience, given us encouraging results. During the past year, we have had at our disposal an imported corpus luteum hormone in the strength of two rabbit units per c.c. In this concentration the hormone is most effective in preventing abortion and in controlling uterine bleeding of threatened abortion of unknown cause. 1829 Pine Street.

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* * *

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Intestinal Obstruction*

J. L. McGEHEE, A.B., M.D., F.A.C.S

Professor of Surgery, College of Medicine, University
of Tennessee
Memphis, Tenn.

Mr. President and Gentlemen:

I have selected as the subject of this address "Intestinal Obstruction" because I regard it as one of our major problems, for the reason that it is essentially a **surgical problem** and for the reason that it is a **clinical problem** which offers marked opportunity for improvement in our end results.

In a recent survey of the 10 year period (1923 to 1933) of 581 cases of intestinal obstruction in the Memphis General Hospital made by one of our staff, Dr. Morton J. Tendler, the mortality rate was 50.94 per cent.

TABLE I

Year	RACE		SEX		RESULTS		TO-TAL	MOR-TALITY
	Black	White	Male	Fe- male	Recov- ered	Died		
1923	51	5	34	22	22	34	56	60.70 %
1924	30	3	23	10	15	18	33	54.54 %
1925	37	10	31	16	23	24	47	51.08 %
1926	29	9	25	13	15	23	38	60.50 %
1927	39	12	30	21	27	26	53	49.05 %
1928	53	10	38	25	31	32	63	50.79 %
1929	55	12	48	19	36	31	67	46.26 %
1930	47	10	35	22	31	26	57	45.60 %
1931	59	18	56	21	42	35	77	45.32 %
1932	70	20	62	28	43	47	90	52.22 %
Totals	470	109	382	197	285	296	581	50.94 %

TABLE II

Type of Obstruction	No. of Cases	Deaths	Mortality Percentage
1. Paralytic Ileus	239	159	66.52%
2. Strangulated Herniae	201	44	21.89%
3. Adhesions, Post-Operative, late	50	28	56.00%
4. Adhesions, Post Operative, early	9	4	44.44%
5. Adhesions, unclassified	20	14	70.00%
6. Adhesions from Appendicitis without operation	7	5	71.43%
7. Adhesions from Salpingitis without operation	9	5	55.55%
8. Volvulus	8	6	75.00%
9. Tuberculous Peritonitis obstruction	5	5	100.00%
10. Intussusception	9	7	77.77%
11. Neoplastic	11	9	81.81%
12. Mesenteric Thrombosis	1	1	100.00%
13. Meckel's Diverticulum	1	0	
14. Foreign Body	1	1	100.00%
15. Unclassified	10	8	80.00%
	581	296	50.94%

*Read before the North Mississippi Medical Society, March 28, 1934.

TABLE III

MORTALITY FROM ACUTE INTESTINAL OBSTRUCTION AS REPORTED FROM VARIOUS CLINICS

Author	Year of report	Number of cases	Mortality (per cent)
Scudder ⁶	1907	121	60
McGlannan ⁷	1913	181	37
Deaver and Ross ⁸	1915	276	42
Codman ⁹	1920	41	34
Richardson ¹⁰	1920	118	41
Braun-Wortmann ¹¹	1924	379	39
Souttar ¹²	1925	3064	32
Tuttle ¹³	1925	150	50
Brill ¹⁴	1929	124	36
Miller ¹⁵	1929	343	61
Smithies ¹⁶	1930	56	41
Melver ⁵	1931	156	44

This mortality rate is as good or as bad as the average from any of the larger surgical clinics. The death rate which is popularly quoted as 30 to 40 per cent actually is from 55 to 65 per cent and we are only stultifying ourselves when we refuse to face the true figures.

Since the dawn of the era of abdominal surgery a remarkable decrease in the mortality of abdominal disasters has occurred. No similar improvement can be boasted in the surgery of intestinal obstruction.

In 1888 (46 years ago) intestinal obstruction was a major subject of discussion at the meeting of the American Association of Physicians and Surgeons. Two celebrities of that day lead the discussion, Dr. Nicholas Senn and Dr. Reginal Fitz; Dr. Senn presenting the surgical aspects and Dr. Fitz the medical views. It was the consensus of the meeting that, **when after two days of medical treatment no improvement had resulted, recourse then should be had to surgery.** Today it is universally conceded that **when the diagnosis is made the patient should be operated upon.** Despite this general acknowledgment that surgery is the only rational and possible treatment, the results in acute intestinal obstruction are still deplorable.

The trouble is that in a lamentable number of cases our practice does not accord with our theory. It is the late diagnosis due to the failure of the medical man to appreciate and properly evaluate the early warning signs of abdominal pain, vomiting, blocked bowel and audible peristalsis that finally results in an operation which, in most instances, is just a gesture of despair and which operation, unfortunately, in many instances is performed by a surgeon who does not appreciate the essential pathology, who is not cognizant of the disturbed physiology and who, as a consequence, fails to appreciate the essential postoperative therapeutic indications.

What then are the necessary and ultimate factors in the production of an improved mortality rate?

1. A simpler clinical classification of the pathology.

2. Early diagnosis.

3. A therapy in harmony with present day knowledge of the disturbed physiology.

One of the most far-reaching advances in the approach to the problems of acute intestinal obstruction has been the recent endeavor of surgical pathologists and surgeons toward a simple clinical classifi-

cation of etiological factors so that proper treatment immediately suggests itself. In the November 11, 1933 number of the American Medical Association Journal Dr. Owen Wangensteen, of the University of Minnesota, presents such a clinical-etiological classification. In it Wangensteen groups the 20 odd causes of acute intestinal obstruction in four groups.

TABLE IV

- I Mechanical Type
 - (a) Due to narrowing of lumen
 - 1. Congenital—atresia, etc.
 - 2. Acquired—stricture, etc.
 - (b) Neoplasm
 - 1. Of the intestine
 - 2. By compression from without
 - (c) Miscellaneous
 - 1. Gall-stones
 - 2. Foreign bodies, etc.
 - (c) Miscellaneous
- II Adhesive Type
 - (a) Inflammatory-traumatic
 - (b) Congenital
- III Strangulation Type
 - (a) Hernia
 - (b) Volvulus
 - (c) Intussusception
- Vascular Lesions
 - (a) Mesenteric Thrombosis
 - (b) Buerger's disease, etc.
- IV Ileus Nervous Type
 - (a) Paralytic (adynamic)
 - (b) Spastic (dynamic)

Observing this classification you can readily see how one may make a reasonably accurate inference

at the bedside and a more reasonably accurate classification on the operating table and that means of "mechanical relief" suggests itself in a given case. It is unnecessary, it would be too time-consuming, to discuss before this body the pathological findings in these four major groups.

Only recently is the view gaining acceptance that the final factors in mechanical obstruction are usually edema and spasm of the gut. There is ample evidence that the edema and spasm at the site of obstruction accountable for the acute stage need be only temporary, for on no other basis can the history of previous obstruction crises with spontaneous recovery after enterostomy be explained. Edema and spasm, producing blockage, followed by distention of the intestinal wall and the consequential vascular changes of distention, producing a reverse peristalsis (clinically manifested by vomiting) with the final result of water loss, dechlorination and toxemia constitute, essentially, the pathology of acute intestinal obstruction.

A great deal of confusion has existed as to the mechanisms and clinical factors which are responsible for the so-called toxemias associated with intestinal obstruction. Broadly speaking, two main theories of the causative factors in the toxemias have been supported both by clinical observation and animal experimentation. One theory has placed the emphasis upon a toxin or toxins originating in the intestine or in the intestinal contents above the obstruction. The other theory has emphasized the chemical and physical changes occurring in the blood and other tissues secondary to vomiting, which is so characteristic of the condition.

It is, I think, fair to say that the toxin theory of

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obstruction toxemia has lately been subordinated to the view that toxic symptoms are explicable in terms of altered salt and water concentration in the blood and other tissues.

The chemical changes which occur in the blood as a result of intestinal obstruction are explicable in terms of the degree of interference with normal re-absorption of digestive secretions. Excessive vomiting removes not only large quantities of water but also electrolytes, principally chlorides and fixed base. The relative excess of sodium radicals in the blood makes possible retention of more carbon dioxide as bicarbonate and thus accounts for the observed rise in CO_2 combining power of the plasma. As a result also of the vomiting a large amount of fluid is lost, resulting in concentration of the blood plasma and the interstitial body fluids are drawn upon heavily and the diminution of these fluids is reflected in the dry skin and shrunken subcutaneous tissues (dehydration).

The viscosity of the blood may be so increased that a tenfold reduction in the volume flow may occur. This viscosity must interfere seriously with the respiratory and other functions of the blood, and depress renal activity. Indeed a consistent finding in obstruction is an increase, up to 1000 per cent, in the blood N. P. N., this increase being chiefly in the urea fraction. It seems certain that this increase in blood N. P. N. is not altogether or mainly a retention phenomenon. Despite the diminished renal function there is an increase in nitrogen excretion which may be four or five times the normal. These facts are indicative of an intensive increase in tissue destruction. **Dehydration of the tissues is the most likely explanation**, although the action of some circulating toxic factor is not precluded. Based on this chemistry a national therapy has been developed which promises the greatest advance yet attained in Intestinal Obstruction.

The epochal work of Haden and Orr in 1923 showed that the administration of saline solution (NaCl) in simple obstruction could prolong life until death resulted from starvation. It is of particular interest that distilled water alone or solutions of dextrose and salts other than sodium chloride are not effective in preventing dehydration and other typical blood and tissue changes associated with obstruction.

So speaking chemically, (1) reduction in blood chlorides, (2) increase in blood N. P. N. and (3) CO_2 combining power are manifestations of intestinal obstruction with vomiting. **A knowledge of these chemical factors is necessary for an understanding of the problem and for the direction of intelligent postoperative treatment.**

However, after all is said, the conclusion of the whole matter is that the prognosis and rationale of treatment is dependent upon the time element; by that I mean the elapsed time from onset to the institution of surgical treatment.

Intestinal obstruction is essentially a clinical problem. No instruments of precision or refined laboratory methods are required. A clinical thermometer and an enema can are the only indispensables. A carefully taken history and physical examination is fundamental. The very hour of onset is announced. The primary warning sign, colicky pain, is repeated every few minutes soon followed by vomiting. Woe unto the patient and shame unto the physician when

these warning proclamations are silenced by a hypodermic injection of morphine or aggravated by the administration of purgatives. Morphine produces a false sense of security on the part of the patient, puts a screen in front of the signs and intensifies the mechanical factors of obstruction. Better that the physician busy himself with determining the cause of the pain rather than with its alleviation. This is not always easy. The patient cries out with pain. The anxious relatives demand that something be done. The humane physician is sorely tempted to give morphine but this is one set of circumstances in which "nihilism is true wisdom." "Purgatives," as Dr. Haggard well observes, "simply compound the felony of delay." By increasing a peristalsis that is already too active, they serve to augment the distention of an already distended bowel and to increase bacterial activity, while if the stomach, and very properly, refuses to tolerate them, the body, as a result of increased vomiting, is still further depleted of its fluids.

This diagnosis is a clinical problem. The onset and chronological order of symptoms and signs are characteristic. (1) Abdominal pain, colicky in character, followed by (2) vomiting, (3) audible peristalsis, (4) blocked bowel and (5) normal temperature constitute the five cardinal signs of acute intestinal obstruction.

At this point I am constrained to refer to a tendency widely current in this age of research, the tendency to lose sight of the clinical aspects of this condition, under the weight of laboratory details. Do not misunderstand me, I have only the highest praise for the work that has been done by such investigators as Gatch, Trusler, Foster, Haden and Orr. It has been of incalculable aid in determining pathology and in establishing a therapeutic rationale, and almost without exception the men who have done it have preached and taught that nothing which they have discovered, nothing which they hope to discover can obviate the necessity for early diagnosis and speedy operation in every instance of intestinal obstruction. But certain men of the profession have distorted their work and made it seem a justification for procrastination. They dwell on the experimental work done on laboratory animals, on the exact nature of the toxins elaborated in the bowel, on the precise causes of death, forgetting that in the last analysis the only important aspect of the disease is its clinical aspect. Our chief concern must ever be with the damaged bowel wall. A knowledge of the lethal agents is surely important but it is more important to dwell upon the early clinical manifestations, the prompt recognition of which will remove any necessity for studying their terminal results. Moreover, conditions produced experimentally in animals by no means parallel conditions actually present in human beings and it might be well, at least occasionally, to pay less attention to mice and more attention to men. It is more profitable to study the pathology of the living

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than the pathology of the dead and a deeper concentration on it would mean that the autopsy room would furnish us with fewer examples of it.

What are the indications for treatment, taking the cases as they come; some early, most late, some too late? There are two general basic principles to be complied with, viz., (a) **mechanical relief** and (b) **replacement therapy**.

The means of **mechanical relief** include section of bands, resection, enterostomy and cecostomy and colonic tube drainage, long standardized methods and recently suction-siphonage. **Replacement therapy** includes the judicious use of sodium chloride, dextrose and water. **The type and character of treatment will depend on;** (1) the elapsed time (i.e. from onset to time of rational therapy—operation), (2) the site, upper middle or lower third obstructions, (3) the nature of the original lesion, (4) the physiological status of the intestine and finally, (5) the chemical and metabolic status of the patient.

So it must be very evident that the successful surgeon must give thought not only to the fact of obstruction but to its underlying cause and type, its probable duration, with consequential changes in the intestinal wall and the **chemical and metabolic status** of his patient before he can possibly outline a successful plan of therapy.

Times does not permit the discussion in detail of all of the therapeutic measures to be employed so I wish to call your attention to the advantages of (1) **continuous suction-siphonage** of the the upper gastro-intestinal tract, (2) **the necessity for controlled replacement** therapy during its use, (3) **the advantages of enterostomy** done according to the Witzel technique and (4) **the value of morphine judiciously used**.

The immediate necessity is obviously two-fold; (1) to empty and to keep continuously empty the obstructed intestine of fluid and gas in order that **structural damage to the bowel wall** may be avoided, tonus recovered and spasm and edema allowed to subside. In other words, continuous intestinal deflation. (2) **The prevention of fatal chemical derangement by replacement therapy**.

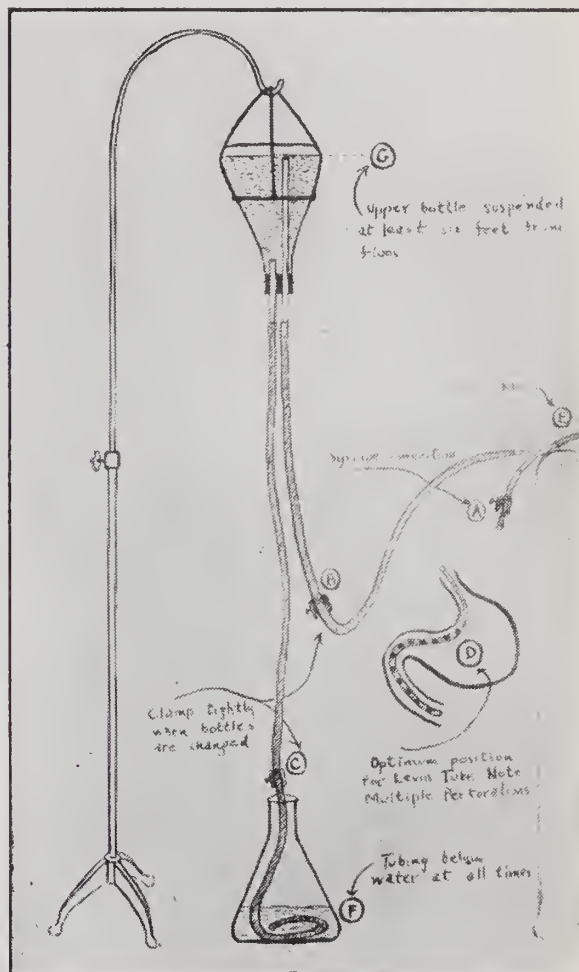
The **Wangensteen apparatus** (suction-siphonage) fulfills the first indication beautifully. **The continuous administration** intravenously of saline solution (NaCl) and glucose fills the second. The variation in the amount of NaCl is governed by the plasma chloride needs. Calories are supplied by the glucose and water balance is maintained.

High obstruction, pyloric, at site of gastrojejunostomy, adynamic ileus and dynamic (spastic) ileus lend themselves beautifully to this type of therapy. Enterostomy (Witzel technique) in low obstruction accomplishes the same purpose, has a continuous intestinal decompression and prevents structural changes in the gut wall with the additional advantage of the possible introduction of nutriment.

There are cases in which suction-siphonage and enterostomy in combination are indicated; particularly is this true in late low obstructions.

As a means of **preoperative preparation** in late bad risk cases suction-siphonage has a place, as illustrated by a recent cases admitted five days after onset, vomiting fecal material, great abdominal distention, pulse 160, subnormal temperature, low blood-pressure (90/60), blood chlorides 260, N. P. N. 90, scan-

ty urine with the listless sunken eyes, the facies indicative of approaching dissolution. Strange to relate, within a few hours after the instituting of suction-siphonage with the Wangenstein apparatus and replacement therapy with hypertonic saline solution, the entire picture was changed. Vomiting ceased, distention was gradually relieved, the temperature



rose to normal, the urinary output rose to 2000 cc daily, the blood chlorides returned to 475, the N. P. N. fell to 30, the pulse rate at the end of five days was 90 and the patient was converted into a safe elective case for operation.

In strangulation types, as hernia, intussusception, volvulus, mesenteric thrombosis, immediate operation is indicated. Relief of strangulation and exteriorization in nonviable types rather than resection is advocated followed by replacement therapy.

As to morphine, it has long been believed and taught by a majority of clinicians that opium and its alkaloids relax gastro-intestinal spasm and stop all peristalsis. Today we must forget this age old concept.

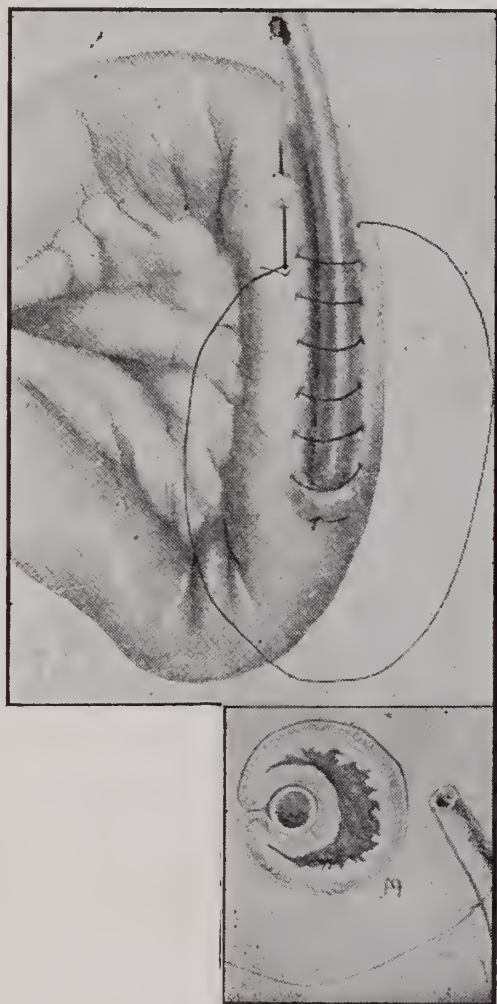
As demonstrated by Thomas G. Orr and reported by him in the Annals of Surgery, November, 1933, "Morphine and related opium derivatives when given hypodermically stimulate the tone, rhythmic contractions and in some degree peristaltic waves of the small intestine for a period of at least six hours."

"To prevent overdilatation of the small intestine morphine is indicated in the treatment of acute peritonitis, intestinal obstruction and so-called paralytic ileus."

"The maximum clinical benefits can be obtained only by giving morphine in sufficient dosage to produce continuous narcosis."

"By maintaining the tone and rhythmic contractions of the small intestine with morphine, distention is controlled and disturbance of the bowel circulation is prevented during the course of the disease until the cause of the bowel distention is overcome by the natural defensive powers of the patient."

These concepts being true, the use of morphine is logical in peritonitis, paralytic ileus and bowel obstruction to prevent over-distention. So its action is synergistic with suction-siphonage and enterostomy in



maintaining continuous decompression and preventing structural changes in the intestinal wall. In addition to this action on the bowel morphine relieves pain, restlessness, apprehension and the discomfort of thirst, thereby conserving the patient's strength and preventing exhaustion of the kinetic system.

I submit for your consideration the following routine orders in force in the Department of General Surgery at the Memphis General Hospital effective January 1934:

ON ADMISSION

History—physical examination

Flat x-ray plate

Blood—complete count, chlorides, N. P. N. and C02 (No delay awaiting reports)

Clinical diagnosis—probable type—Mechanical, adhesive, Strangulation, Ileus—Call Attending Surgeon

Institution of suction siphonage (Wangensteen)

Administration of morphine (after Wangenstein)

To operating room—if operable

If not operable

Institution of continuous intravenous saline-glucose solution (5 per cent in normal saline) and to operating room when operable.

Operation—anesthetic—spinal when no positive contraindication

Coeliotomy—exploratory—determination of type where not detrimental to patient

Enterostomy (Witzel technique) in lower one-third obstructions as near as possible to point of obstruction

Strangulation type—viable—mechanical relief and enterostomy

Nonviable—mechanical relief, exteriorization and enterostomy

POSTOPERATIVE CARE:

1. Continuous suction siphonage—daily estimation of

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 3. Daily urinary volume determination

4. Morphine qs q4 hours for a period to be determined by the exigencies of the case

Under this plan of management we hope to improve our past ten-year mortality rate of 50.94 per cent. Under this method of treatment I submit the records of twenty cases.

TABLE VII PRIVATE CASES

Case	Elapsed Time	Type Wangenstein	Condition on Admission	Operation	Treatment	Result
1. E. T.	3 days	Adhesive	Appen. Acute suppurative Peritonitis, acute diffuse	An. NO-O-Ether Appendectomy	S. S. R. 5 days	C.
2. E. M.	3 days	Adhesive	Appen. Acute suppurative Peritonitis, acute diffuse	An. Spinal, Appendectomy, Ileostomy (W)	S. S. R. 4 days	C.
3. G. B.	15 Hrs.	Adhesive	Perforated sigmoid peritonitis, Acute diffuse suppurative	An. Spinal, Closure of perforation, Cecostomy, Ileostomy (W)	S. S. R. 7 days	C.
4. R. P.	7 Hrs.	Adhesive Post-op.	Pain severe, nausea and vomiting, moderate distention. Aud. peristalsis	An. Spinal, Section of band. Relief of obstruction	S. S. R. 3 days	C.
5. G. B.	14 Hrs.	Adhesive Post-op.	Temp. 97-P. 90, great distention, Aud. peristalsis, great pain, nausea and vomiting	None	S. S. R. 5 days	C.
6. B. M. J. C.	1 day	Ileus Post-op. Hernia	Nausea and vomiting, great distention, temp. 97—P. 100	An. Ether cecostomy	S. S. R. 5 days	C.
7. R. E. W.	36 Hrs.	Ileus Post-op. Cesarian	Nausea and vomiting, great distention	None	S. S. R. 5 days	C.
8. Dr. W. K.	10 Hrs.	Ileus Post-op. appen.	Nausea and vomiting	None	S. S. R. 1 day	C.
9. T. R.	48 Hrs.	Ileus Post-op. Cesarian	Nausea and vomiting	None	S. S. R. 3 days	C.
10. T. R.	24 Hrs.	Ileus Post-op. Str. Hernia	Nausea and vomiting	None	S. S. R. 3 days	C.

PRIVATE CASES

10 Cases, 10 cured, No deaths, Average elapsed time 33 hours, Shortest time 7 hours, Longest time 3 days
Note: S. S. R.: Suction-siphonage replacement therapy.

TABLE VIII SERVICE CASES

Case	Elapsed Time	Type Wangenstein	Condition on Admission	Operation	Treatment	Result
1. C ¹	1 day	Adhesive Post-op.	Fair B. C. 450-N. P. N. 39	None	S. S. R. 2 days	C.
2. C ³	18 Hrs.	Adhesive Post-op.	Fair B. C. 475-N. P. N. 40	None	S. S. R. 4 days	C.
3. A ⁹	5 days	Adhesive Post-op. appen.	B. C. 400-N. P. N. 90 Co ² 86 Poor	None	S. S. R. 2 days	D.
4. D ⁴	3 days	Undet.	B. C. 200-N. P. N. 46 Co ² 86 Poor	None	S. S. R. 5 days	C.
5. C ³	1 day	Adhesive Post-op.	Fair	None	S. S. R. 1 day	C.

6. A ⁵	1 day	Undet.	Greatly distended nausea and vomiting B. C. 400-N. P. N. 50 Poor	None	S. S. R. 4 days	C.
7. A ⁶	4 days	Adhesive Post-op.	Grave B. C. 250-N. P. N. 100	None	S. S. R. 9 days	D. 9th days Cancer- inop. col- on
8. E ⁸	4 days	Adhesive Post-op.	Grave	An. Spinal ileostomy	S. S. R. 5 days	D.
9. E ⁷	8 days	Adhesive Post-op.	Grave	None	S. S. R. 4 days	D. was in- flated No naus- ea or vomiting
10. E.	4 days	Adhesive Post-op.	Grave	An. Local ileostomy (W)	S. S. R. Impossible ac. of 1 day delirium	D.

SERVICE CASES Memphis General Hospital

10 cases, 5 cured, 5 deaths. Average elapsed time 80 hours; Shortest time 18 hours; Longest time 8 days
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President's Address



DR. J. W. D. DICKS

This annual meeting of the Mississippi State Medical Association brings to a close my tenure of office as your president. Words fail me in my efforts to express to you my appreciation of the great privilege of being your leader during the year that is now drawing to a close. I know of no greater honor that could come to any physician than to be selected as president of a state medical association. It is the crowning event of a physician's professional life. I also realize that associated with this high honor there is a great responsibility not only to the organization as a body but to every individual member, thereof. How well I have fulfilled the great confidence you have reposed in me only you can judge. I can only say that I have labored with an eye single to what I believed to be the best interests of the State Association and its individual members.

Realizing the importance to the medical profession of a strong organization, I have striven by every means to increase the membership of organized medicine in Mississippi.

During the past year we have had to deal with questions affecting the welfare of the medical profession in our state. Aided by the officers of the State Medical Association, a solution of these problems was obtained that I trust was satisfactory to all concerned.

Complying with the mandate of our Constitution and By-laws, I have visited as many of our medical societies as it was possible for me to attend. Professional duties, I regret to say, prevented my visiting other such societies from which I received invitations. I have endeavored to reach all of the profession through the columns of the "New Orleans Medical and Surgical Journal" and "The Mississippi Doctor."

In this my final address to you I wish to bring to your attention certain problems that I consider of vital importance to the welfare of the medical profession of our state.

By way of introduction to the subject it may not be amiss to sketch briefly the origin and the subse-

quent history of the practice of medicine as it relates to the economic position of the physician throughout the ages that have passed.

The practice of medicine had its origin in the far distant past. Primitive man, the ancient ancestor of the present generation, was a savage who roamed the earth, ignorant of the phenomena of his existence or of his surroundings. Fear of death was uppermost in his mind. He feared his fellow man, the wild beasts that inhabited the mighty forests, and fled in terror from such natural phenomena as thunder and lightning. He attributed all of his misfortunes, including disease, to evil spirits that in his imagination peopled the air about him. To protect himself from these evil spirits he invented good spirits, charms, and mystic rites. In due time some one member of the clan or tribe appeared to be more successful than others in combating these evil influences. This man became the magician or medicine man of the clan. He was the progenitor of the physician.

Later as primitive man became more enamored with the idea of good spirits aiding him in his fight against the evil ones, this medicine man became a priest who served the good spirits or gods. Religion was therefore added to the practice of medicine. The origin of medicine was, therefore, mysticism, magic, and religion. Primitive man believed that spirits inhabited all animate and inanimate objects. Some of these objects he thought contained good spirits, hence certain herbs and parts of certain animals were given to the patient in order that the good spirits might enter into their bodies and drive out the evil ones that were causing disease.

As man's intelligence gradually increased his desire to better protect himself from disease and its sequence, death, was manifested in other additions to this early art of medicine; namely, astrology and the science of numbers which were thought to influence his health. The numbers four, seven, and thirteen were considered of especial importance. The rays of light from Luna, the moon, under certain conditions were supposed to produce insanity, hence the designation "lunatic" was applied to an insane person. From these old beliefs we of the present generation have inherited superstition, such as the belief that a child born at seven months was more likely to live than one born at eight months. Throughout many ages the art of medicine was a mixture of

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religion, mysticism, and magic.

About four hundred years before the birth of Christ there lived in Greece a physician, whose name was Hippocrates. He became the greatest physician of his age. He was the first to recognize the error of mysticism, magic, and religion in medicine. He taught that disease was cured by the natural powers of the body. He practiced bedside observation of symptoms, examined the secretions of the body, and investigated the digestibility of various foods. He established the practice of medicine on a rational basis. He also composed a code of ethics to govern the conduct of physicians. He declared that the true physician must be a man of honor, true to himself, and honorable in his dealing with all men. This ancient code is the basis for the present code of ethics that is in use today by the medical profession. In this day of many codes we of the medical profession can point with pride to this ancient code of ours that has been a lamp to guide the members of our profession throughout all the centuries of the past.

Gradually the science of medicine progressed until today we find not a finished product but a system that has reduced the incidence of disease to a point that is nothing short of miraculous. The death rate from disease has dropped to 9.6 per 1000 and nearly twenty years has been added to man's age of expectancy. The number of newborn infants that may reasonably expect to reach maturity has been vastly increased. Trench after trench of man's great enemy, entrenched disease, has been taken in our war on that dread enemy of the human race. There remains much more to be done before disease will be entirely under control.

During all of these centuries past the physician has never faltered in his endeavor to serve suffering humanity. Many of the great achievements of modern civilization would not have been possible without the aid of scientific medicine. I will mention only one of many—the construction of that marvel of engineering skill, The Panama Canal. Many thousands of lives and dollars have been saved annually by the almost complete eradication of typhoid fever, diphtheria, and the great reduction in the cases of tuberculosis, also by the banishment of that great scourge of our Southland, yellow fever.

What position has the physician occupied in the body politic during all these years of the history of medicine? During the early days of primitive civilization he was exalted to a place of great influence among his fellow men. In the writings of the ancient people the earliest of which we have any record the physician is frequently mentioned as a man high in the esteem of the people. He continued to occupy a strong position in society down to the time of the Dark Ages some centuries after the birth of Christ. This period of man's history witnessed a retrogression in civilization to a state of semi-barbarism. Naturally the practice of medicine was affected by the changed conditions of civilization. Medicine again passed into the domain of religion and the physician lost prestige. He gradually reverted to a menial position in society. The clergy began again as in primitive days the practice of medicine. Medical service was dispensed by the monks largely free of charge, a form of state medicine.

About the beginning of the sixteenth century a

few great thinkers in the profession in the face of grave persecution lighted again the lamp of knowledge and gradually led the medical profession out of the darkness and ignorance that had engulfed it. Once again religion and the practice of medicine were divorced. The economic status of the physician was gradually brought up from the lowly position he had occupied to one of influence and material betterment. From this time dates the beginning of modern, scientific medicine.

During the seventeenth, eighteenth, and nineteenth centuries we see the development of a spirit of intense individualism in all lines of human endeavor. Trade boundaries were far flung; much of the world's surface was unexplored and undeveloped. It was an age that required rugged individualism as a guiding star in the realm of economics in order that civilization might progress. Again we see the influence of the times on the medical profession. The medical profession became the most individualistic of all professions.

Gradually as civilization moved forward frontiers disappeared, unexplored lands of yesterday became the prosperous communities of today. Great cities were reared in former barren wastes. The railroad and later the automobile joined all sections of our nation closely together; the telegraph, telephone, and finally the radio and aeroplane completely banished isolation and knit the population together into one composite mass. We find ourselves in this new age transformed from a nation of widely scattered communities and individuals into a great united family where the interests of the individual are bound up in the composite mass that we call society.

Man has by his intelligence harnessed the powers of nature and made them his servants to such an extent that in this new age, the so-called machine age, we are facing a condition of over-production in the world's commodities rather than under production—the condition that existed in former ages. This changed condition has brought about its natural sequence, a collapse of our economic structure. The result of this collapse has been the greatest financial disaster that has even occurred in our history.

What role has the physician played in these trying days of financial storm? While some twelve millions of his fellow citizens have been thrown out of employment and some forty-eight million more have been so reduced in income that they have to all practical purposes been relegated to the indigent class, requiring bread lines in our cities and entailing untold suffering throughout the land, the physician has never faltered in his war on disease. He has been found at his post of duty, doing all that is humanly possible to alleviate human suffering, never sparing himself physically or financially in his efforts to relieve the sick and injured. This he has done under a tremendous handicap. The average physician is dependent largely on the artisan, the farmer, and

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the average salaried man for his income. The buying power of this large class has been practically wiped out and in consequence the income of the average physician has almost reached the vanishing point. I know of no class of our citizens that has felt the depression more than the average physician. He has met the financial storm with face to the front, chest out, and chin up; knocked down many times he is soon up and fighting again. Let it be said, however, to his eternal credit he has never asked aid from any source. When many classes of our citizens have given up the fight and asked for government aid, I have yet to hear of a single instance where the physician has asked for or received aid from any source.

What is the economic position of the average physician in our body politic today? I designate this physician as the average to distinguish him from a small group of his brother practitioners whose financial reward in the past has been derived largely from our wealthy and moderately wealthy class and have achieved financial independence as a result of a lucrative income during the days of our prosperity. The average physician belongs to a large majority of our profession whose income even in days of prosperity was around fifteen hundred to three thousand dollars per year. Out of this income he must support his dependents in a decent manner, educate his children, and keep up the expense of his practice. There was never a chance for this physician to save any money above his expenses; not a possible chance for him to set aside a fund to take care of himself and his dependents when he reached old age.

The economic status of the average physician today is extremely bad. He is carrying a tremendous load. Unable to collect from his former patients because they have been transferred to the indigent class, he cannot see them suffer when sickness is added to their misfortune; he does not refuse them aid in their hour of need, even though he knows full well that he will expend his time, professional services, and money from his meager supply without hope of being paid. The load is rapidly becoming too heavy to be carried any longer. We cannot shut our eyes to this situation; to do so would be the height of folly and only bring disaster. We must give the subject the consideration it deserves. We cannot plan a solution unless we study the situation intelligently, constructively, and dispassionately.

There are several factors not entirely the result of the financial debacle that are threatening the economic status of the average physician. Let us analyze the situation briefly. During the past fifty years our knowledge of the science of medicine has increased by leaps and bounds. The great advance in medical science has brought many new and necessary procedures into the diagnosis and treatment of disease. I will mention a few of the aids in diagnosis—x-ray, pathological, bacteriological, and serological laboratory examinations, all absolutely necessary in order that a correct diagnosis be made and proper treatment instituted. The general tendency to hospitalize the sick in order that the best interests of the patient be served and in many instances the employment of specialists have combined to increase

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the cost of medical care to a point beyond the reach of the moderately salaried man, the artisan, and the farmer. This large class of our citizens, constituting over seventy percent of the population have erroneously attributed this increased cost to a sort of profiteering on the part of the medical profession. This charge has no foundation in fact. The amount received by a single individual physician is small. It is no greater than the wages of any skilled artisan and in some instances not as large. Propaganda has been busy and the rumblings of discontent among our great middle class population were heard even before the financial storm began. The storm has tended to fan the flame into a large fire of dissatisfaction with our present methods of medical practice.

To find evidence of the growing revolt against the cost of medical care we have only to look around the country and see the number of free clinics that have been established by public and private philanthropy. The number of these free clinics has materially increased and the amount of money appropriated for this purpose has been multiplied many times. These clinics were established originally for our pauper population but their activities have been extended until now we find all classes of the population receiving free medical treatment at the expense of the taxpayer and private philanthropy.

The wholesale withdrawal of such vast numbers of our population from the clientele of the average physician constitutes a serious menace to the medical profession and would seem to point the way to an ultimate absorption by the state of the practice of medicine. The solution of this problem calls for constructive planning on the part of the medical profession. It is beside the question to pass resolutions at our meetings condemning this or that plan for the solution of the problem. The public expects the medical profession to justify its right to leadership in matters pertaining to the practice of medicine by presenting a solution of the problem that will be satisfactory to both the public and the medical profession.

It has been said by many writers during the past few years that people were starving in a land overflowing with all of the commodities of life. Overproduction has been blamed for most of our economic ills. The medical profession is facing a similar situation in the over-crowding of our ranks. Statistics show that in order to insure a living income the ratio of physician to population must not exceed one physician to sixteen hundred of population. Now let us see what the present ratio is. We find that we have today in the United States one physician to seven hundred eighty of population and at the present rate of graduation from our medical colleges we will have in 1940 one physician to seven hundred sixty of population, a number far in excess of the needs of our populace. This over-crowding can lead to only one result, a marked deterioration in medical service rendered the public and a lowering of the standards of the practice of medicine.

In the mad scramble to obtain a livelihood, human nature will assert itself as it has always done. The trusting public will find itself victimized by the unscrupulous in the over-crowded ranks of the profession. This situation should be largely corrected at its source, the medical colleges. The number of stud-

ents admitted to the study of medicine should be kept at a minimum sufficient to supply the vacancies that occur in the profession. It is not enough to require a high degree of educational attainment before admission as a medical student. The adaptability of the applicant for a medical career should be thoroughly studied and only those who have proven to measure up to a high standard of adaptability should be accepted. Bearing in mind the qualification of a physician enunciated by the Father of Medicine, Hippocrates, I do not believe any young man who indulges in excesses of any kind or who does not measure up to a high standard of honor has any place in the ranks of the medical profession. Our state licensing boards can also aid in this campaign to prevent overcrowding. A general tightening up of the requirements for a license will aid materially. The moral character and adaptability of the applicant especially should be stressed. Our state licensing boards should also be clothed with authority to revoke the license of any physician who is found to be dishonorable, immoral, or addicted to the use of any of the habit-forming drugs or alcohol.

This subject should receive careful attention at the hands of our state medical associations in order that our national organization may be able to effectually solve this problem.

One other problem confronting the medical profession will be found in the field of specialization. It is a debatable question whether we are tending to over-specialization. The specialties have been multiplied many times during recent years. It is probable that combinations of two or more into one specialty could be accomplished without detracting from the service rendered the public and thereby reducing the cost of medical care.

Entrance into the specialties should be legally restricted to those who demonstrate their ability to engage in a special branch of medicine. The designation "specialist" in medicine implies a greater knowledge and training in the particular branch of medicine than is possessed by the general practitioner. In order that this qualification be complied with the specialist must have had special training in a post-graduate college and in addition served an apprenticeship under a master in the specialty that he aspires to enter. At the present time there are no legal obstacles in the way of any practitioner announcing his entry into these special branches of medicine without in any way meeting the qualifications mentioned above. This is largely true in the field of surgery, one of the most important and exacting specialties of medicine—a specialty where life and death are more delicately balanced than in any other field of medicine. The results following surgical operations by poorly trained, inexperienced surgeons, even if not fatal, are frequently disastrous to the health of the patient. There should always be a definite indication for operation to justify its employment. No physician should enter into this special-

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ty until he has acquired that greatest of all assets of a competent surgeon, surgical judgment. As a prerequisite one may have a thorough knowledge of all branches of medicine, especially diagnosis, surgical pathology, and operative technique. These qualifications can only be acquired by special training in a post-graduate school and in addition by serving an apprenticeship under a master in surgery. Surgical judgment requires a correlation of all these subjects plus practical experience under the tutelage of a master surgeon. I do not believe that anyone should be allowed to practice a specialty until he has met these requirements. The right to practice medicine granted to recent graduates by licensing boards should not carry with it the privilege to practice a specialty. Licensing boards should require special training and the ability to pass a special examination before granting the legal right to practice a specialty. The public has the right to know when they consult a specialist that he is competent.

This question deserves the careful consideration of organized medicine to the end that some plan may be evolved to safe-guard the interests of the public and protect the competent specialist.

From ancient days we of the medical profession have inherited a burden that has been carried through the many centuries. This burden is an inheritance from the days of feudal lords. During the days of the middle ages the physician's economic position depended upon the goodwill of the lord who ruled in his homeland. The lord's retainers, who were little more than serfs, were treated by the physician

without recompense at the command of the lord. To refuse meant degradation or even death to the unfortunate physician. As the scenes of history changed throughout subsequent centuries these over-lords shifted their mantle in respect to this burden to two other lords of this present day civilization—state and privately organized charity.

I speak now of the burden imposed upon the physician by state and privately organized charity. I wish to emphasize the words "organized charity," be it national, state, county, city, or public philanthropy. I do not include personal charity. I trust the day will never come when any physician will refuse to dispense charity in his private practice. It is one of the greatest privileges of our profession to relieve suffering humanity regardless of the ability of the patient to pay for such service.

Service to organized charity is an entirely different matter. The physician as a citizen pays his taxes and contributes his money to the various charity organizations in our land. He discharges his duty in this respect in the same manner as do other classes of our citizens and should be entitled to receive the same treatment accorded these other classes of citizens. Does he receive equal treatment in this respect? History answers, "No." An additional burden is laid upon him. Organized charity collects from him his money in taxes and in voluntary contributions and then brings to him their indigent sick for a further contribution of his time and professional knowledge. This double tax is neither fair nor just. Do these various agencies expect to obtain food,

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clothing, drugs, other commodities of life or personal service from artisans without paying the cost? They expect and do pay for these commodities and personal services. However, they expect the physician to give his time and professional knowledge gratis.

Some may use the time-worn argument that the physician is 'only giving his time and that costs him nothing.' The idea also seems to prevail that in some manner the medical profession is endowed from some mysterious source with a sufficiency of this world's goods and therefore, does not need recompense for services of this character. Apparently they do not realize that it has cost the physician an initial investment of about twenty thousand dollars to obtain his medical education; that in order to carry on his practice he must expend a large sum of money each month, and that he has dependents to support out of his income. His time and his professional knowledge are his stock in trade that he offers for sale in order that he may meet his financial obligations. The physician is certainly entitled to a fair return on his investment. Recent statistics gathered after a careful survey of the United States reveals the fact that the medical profession contributed last year in services to the indigent for which they received no pay, the stupendous sum of \$375,000,000.00. This survey revealed another fact that 24.58 per cent of the physician's time was given outright to charity.

I am sure that the sense of justice and fair play of our American people will aid in correcting this situation. We of the medical profession are partly responsible for the continuation of this custom. We have encouraged in the minds of the public that we have some special mission on earth to alleviate all human suffering regardless of conditions. I would again give emphasis to the fact that I am only alluding to public charity dispensed by state or private charitable organizations and not in any way referring to personal charity that the physician dispenses in his private practice.

Another problem in which the medical profession should be interested is the problem of private hospitals. During these days of readjustment of our economic system, the privately owned hospital has suffered a loss of revenue that has practically reduced them to penury. A recent survey in this field has revealed thousands of beds in the pay department of these hospitals empty. The charity beds are full to overflowing. The hospitals devoted entirely to charity, owned and operated by the national government and the political subdivisions of our country are crowded to full capacity with waiting lists well filled.

The hospital has been called the doctor's workshop. It is the place where he may practice medicine and best conserve his patient's interests. The hospital has become an essential part of every community. The physician and the public both realize its great importance if the sick and injured are to be given every opportunity to recover normal health.

In the vast majority of small communities of our land these hospitals have been established by physicians in order that they may better serve their patients and give them all the advantages of modern medical treatment. The establishment and operation of these small hospitals requires a large outlay of money, more than the average group of physicians can afford. During the days of prosperity these in-

situations had just about made expenses. I have never heard of one that declared a dividend. During our days of plenty not one of these hospitals refused a charity case, although the public made very little if any effort to pay for the indigent sick and injured. Now that we are in the midst of financial storm these small hospitals have endeavored to carry on in order that their communities might not be deprived of hospital facilities. Struggling along with their income almost at the vanishing point, unable to meet their obligations, these hospitals are in danger of closing their doors. The physicians who own them have carried the load until they have come to the end of the road. They can no longer maintain them. These communities must either be deprived of hospital facilities or some other plan must be evolved to solve the problem.

I do not believe it is incumbent upon the physician to furnish hospital facilities. I believe this is the duty of each community. It is a duty these communities have shirked in the past because they believed the medical profession would carry on for them. Our communities are ready and willing to expend thousands of dollars on community luxuries, such as paved roads, expensive court houses, and school buildings, but they revolt at the idea of providing a place to treat their sick and injured. I think it is time that the medical profession refuse to carry this load any longer. There is no more reason that the physician should provide the hospital than there is for our lawyer friends to provide the court houses. One is a workshop for the doctor and the other is a workshop for the lawyer.

There should be a community hospital in each community, owned and operated by the community with both free and pay wards. Only bona fide charity cases should be admitted to the free wards, all others to be placed in pay wards and treated by the physician of their choice as his private patient. Our State Medical Association has a community hospital committee that has done excellent work in studying the situation. They have amassed a great deal of valuable data. I believe this subject should continue to receive our earnest consideration in order that the problem may be solved.

What does this new age in which we are living portend for the physician? We have seen in our resume of the history of the practice of medicine how the social and economic status of the physician has changed in the different ages of our civilization. It is logical to expect a change in this age. We are living in an age of mass production and collective bargaining. New economic ideas are rapidly taking the place of our old ones. We see a participation of government in all lines of business to a greater extent than ever before in our history. Whether we shall ever retrace these steps remains to be seen. It is possible that we shall continue to have a large measure of government control of business. Will this

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control extend to the professions? It is logical to think that in a measure it will. I believe it is the duty of organized medicine to be on guard in order that such government control may be limited to a minimum and not inconsistent with the best interests of the public and the profession.

A recent medical writer has well stated, "Today medicine stands at the cross-roads, one road leading directly to state medicine and the other to some form of our present method of practice modified to meet present day conditions." What road shall we take? It is my opinion that the unanimous answer of the profession will be the road to our present plan of practice modified perhaps to suit the age in which we are living. No thinking physician would want state medicine with all of its attendant bureaucratic evils, nor do I think our American people would tolerate it for any length of time. I can think of no greater prostitution of a great and noble profession than would be accomplished by state medicine. Honeycombed by politics, shackled by bureaucratic regulations, both the public and the profession would suffer irreparable damage. We have but to look across the seas to countries where it is in operation to see its baneful results.

The medical profession should not pursue a policy of ignoring the signs of the times. We should study the economic situation in all of its relations to the practice of medicine. The subject should be approached in an ethical manner and a well thought out

plan evolved to guide the profession in readjusting the physician to the new age in which we are living. National, state, and county leaders should plan constructive leadership in order that the rights of the individual physician be safe-guarded, the public protected, and the high ideals that have guided the conduct of our profession in the past preserved.

How can we of the medical profession solve these problems? I think the answer lies first in thorough organization. As individuals we can accomplish nothing. This is an age of organization. The day of complete individualism is gone perhaps never to return.

The foundation of organized medicine in the United States is the county medical society. Upon this foundation rests the entire structure of medical organization. The importance of a strong foundation cannot be over estimated. Our county medical societies must be thoroughly organized. Every eligible physician in the county should be enrolled as a member. In order to enlist his interest in organized medicine there must be a material advantage to be gained by each individual physician. None of us like to admit that there is a material side to medicine, nevertheless, it is present and we may as well admit the fact. This is an age where materialism plays a large part in men's lives; men are not attracted to any proposition that does not promise them some benefit. Likewise medical societies must give some real tangible return for the time one gives to it and the mon-

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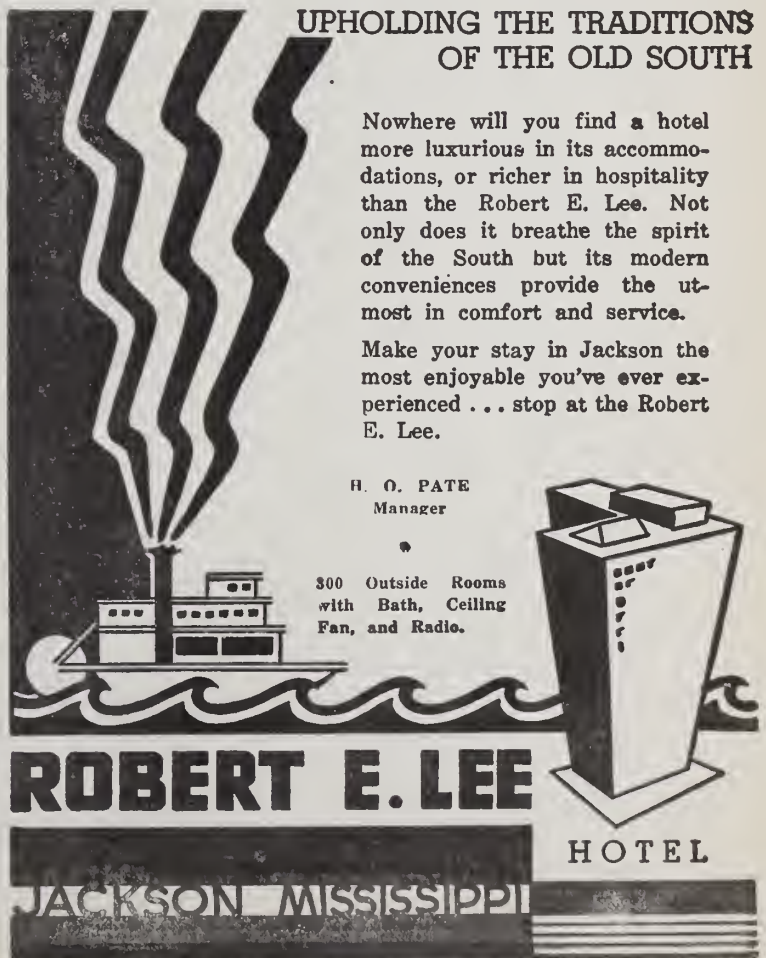
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How can a medical society fulfill its mission? First, in order that interest may not lag as the result of infrequent meetings, the society should meet monthly. Second, the territory covered by the society should not be large in order that the place of meeting shall always be convenient to all of its members. Third, the program should always contain subjects of interest to the general practitioner, remembering that these societies are not composed of specialists. Fourth, economic problems both local and general should have a prominent place on the program. Fifth, round-table discussion of clinical cases I believe is of more value than prepared papers in stimulating interest of the members. Sixth, medical ethics should be stressed and an effort made to establish a spirit of comradeship among the members.

I believe the county society should be the unit of organization of our State Association. Some may argue that there are counties that contain only a few physicians, not enough to form a society. It is true that we have a few counties in this state where this condition obtains. The situation in these counties can be met by allowing the physicians to join adjacent county societies. I believe that the organization of county medical societies will materially increase the membership in organized medicine in this state.

I would not interfere with our present splendid component societies. I would make of them councilor district societies, meeting quarterly, semi-annually, or annually, their function being purely scientific. They should furnish interesting and instructive programs of a professional nature. There should be no dues for the larger societies, membership in the county society should carry with it membership in the councilor district society. The expense of the larger society meetings can be prorated among the county societies of which it is composed. This plan has been in operation in the Eighth Councilor's District for several years with very satisfactory results.

Let us analyze the statistics of membership in our State Association at the beginning of my term of office. We had five single county societies with a combined membership in their territory of seventy-seven plus percent, while our component societies only showed a combined membership of fifty-five plus percent. These facts would seem to emphasize the value of county societies over the component society in the matter of enrolling our eligible physicians in organized medicine. We must not lose sight of the fact that the State Medical Association is the organized medical profession of our state. It has other functions than a purely scientific function. It is the organization that represents and speaks for the entire profession in ALL matters pertaining to the practice of medicine both economic and scientific.

I believe the plan to make the county society the unit of membership for the Mississippi State Medical Association is worthy of a trial. It is the plan in vogue in practically every state in the Union. I recommend the question to you for your careful consideration.

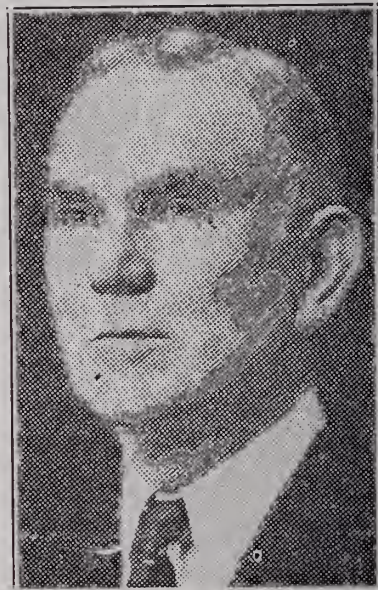
The study of economic problems confronting the medical profession should receive your attention. I recommend the appointment of a committee from the State Medical Association to gather information on

this important subject. This committee should study the question and be prepared to make recommendation to the House of Delegates on matters pertaining to medical economics to the end that constructive action may be taken. An appropriation should be made in order that such committee may do effective work.

In conclusion I wish to again stress the importance of organization and your careful consideration of the economic problems that confront the medical profession. Let us develop a spirit of comradeship among our members. Let us throw away some of that intense individualism that has in the past encased the average physician in a shell of self-sufficiency. Let us encourage team-work among our members and each member do his part to the best of his ability.

I wish to thank the officers and members of the Mississippi State Medical Association for their wholehearted aid and support during my occupancy of the presidency. I shall always retain a very happy remembrance of the honor and confidence you have conferred upon me. If I have erred in my leadership, you may be sure it was an error of mind and not of heart. May health, happiness, and prosperity attend each in individual member of the State Medical Association in the future.

May the Mississippi State Medical Association go forward in its mission to hold high the torch to guide the medical profession of Mississippi along the road of honor and professional achievement to a greater destiny in the days that lie before us.



Dr. Jim R. Hill, of Corinth, president-elect of the Mississippi State Medical Association. A high honor worthily bestowed.

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Memphis, Tennessee

Closing of Hospital Meeting At Natchez

In closing the Hospital meeting at the banquet at Natchez, Mississippi on May 7, 1934 Louis J. Bristow, superintendent of the Baptist Hospital in New Orleans, in closing the meeting said:

"On behalf of those of us who have been privileged to be guests I desire to become the voluntary spokesman and to express our deep appreciation of the entertainment given and the courtesies shown us. All of us are doctors or nurses or hospital administrators. We are not competitors but co-laborers in a common field of service. Our ranks have grown great and sometimes I fear we may lose the vision of the Source of our strength. I recall that when I was a boy, Great Britain celebrated the diamond jubilee of that Nation's benevolent and beloved Queen Victoria. The nations of the civilized world through their representatives paid homage to her beneficent reign. Soldiers, statesmen and diplomats, scholars, scientists and philosophers from every country were there. And on the great day when Victoria reviewed them as they marched before her in a majestic pageant the streets were filled with people who cried out in glad acclaim. Seated in the midst of the multitude far above the streets was a young man of poetic spirit and prophetic vision. He listened to the cheering of the masses: and fearing that his countrymen might lose the vision of their mission to the human race and might lose the sense of the Source of their nation's strength and greatness, and would call them back to a proper appreciation of that mission and Source; foreseeing the morrow when all this glad pageantry would have dissolved, wrote:

"God of our fathers, known of old,
Lord of our far flung battle line,
Beneath whose awful hand we hold
Dominion over palm and pine:

Lord, God of hosts, be with us yet
Lest we forget, lest we forget.

"He saw the morrow, when all this cheering would be silenced, when these uniformed and bejeweled men would return to their homes, and he wrote:

"The shouting and the tumult dies,
The captains and the kings depart
Still stands thine ancient sacrifice,
A broken and a contrite heart.

Lord, God of hosts, be with us yet
Lest we forget, lest we forget.

"He saw the blazing beacons on the shores die away into dust and ashes, and the ships of the nations sailing away to their own ports, and he wrote:

"Far called our navies melt away,
On dune and headland sinks the fire:
Lo, all our pomp of yesterday
Is one with Nineveh and Tyre.

Lord, God of hosts, be with us yet
Lest we forget, lest we forget.

"He saw his people proclaiming their own greatness and forgetting the Judge, and he wrote:

"If drunk with sight of power we loose
Wild Tongues that hold not Thee in awe,
Such boastings as the Gentiles use—
Or lesser breeds without the law—
Judge of the nations, spare us yet,
Lest we forget, lest we forget."

"And, basing my farewell upon what these speakers have said, and the fact that our task of healing humanity's hurt is a Divinely given mission, I would leave with you the thought that we will achieve only as we remember our Divine co-laborer.

"May your labors, then, in Him be as ceaseless as the flowing of yon river and as noiseless as the falling of the snow; and they will be crowned with a success as beautiful as the ripening of summer fruit.

"Good night."



The above is a likeness of Dr. J. M. Acker of Aberdeen, ex-president of the Mississippi State Medical Association, who has been appointed to succeed Dr. C. D. Mitchell as superintendent of the Hospital for the Insane at Jackson. Dr. Acker is young and full of energy. He is a systematic worker. He is honest, fair and square in all of his dealings. He is a good business man. He has plenty of executive ability.

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The Technic Of Perineoplasty In Extreme Cases Of Rectocele

DEWELL GANN, JR.,
A.M., M.D., D.Sc., F.A.C.S., F.R.C.S., (Edin.):
Chief Surgeon, St. Vincent's Infirmary
Little Rock, Ark.

There are some cases of perineal laceration that do better when the redundant mucous membrane is resected, especially those accompanied by procidentia and marked relaxation of the outlet. In such cases it has been our custom, for the past fifteen years, to follow the technic herein illustrated.

1. Place patient in lithotomy position.
2. Drape as follows:
 - a. Lay a folded towel over the inner aspect of each thigh.
 - b. Lay a folded towel over the pubis.
 - c. Push a fourth towel, folded, under the buttock and lift the upper fold to the fourchette. Attach it here with a towel clamp or Allis forcep in such a manner as to protect the field from the anus. (A tonsil sheet may be used in lieu of towels.)
 - d. Place a vaginal sheet over the field.
3. Place a Gelpi retractor in such a manner the points will be just beneath and not injure the openings of Bartholin's ducts.
4. Steady the retractor and extend an incision from one point to the other using a sharp pointed abscess Bard Parker knife blade from right to left or an ordinary scalpel blade from left to right.

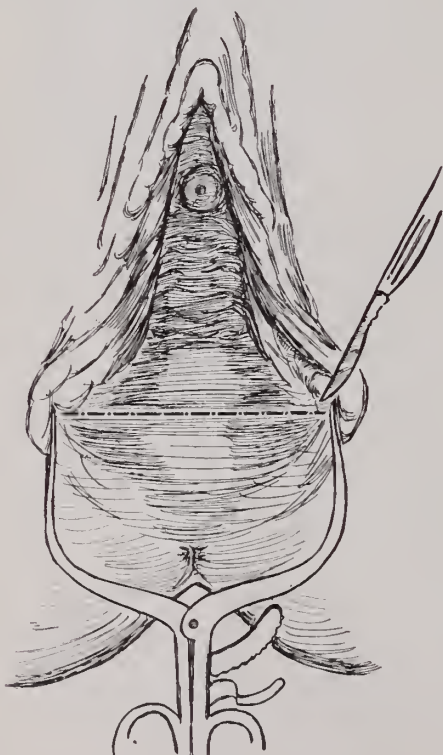


Fig. I.

5. Grasp the mucous membrane to be denuded at a point midway between the points of the Gelpi retractor. Insert the middle finger of

the left hand into the vagina and denude a triangular area of mucous membrane from the posterior vaginal wall. (The finger serves as a guide to prevent buttonholing of the mucous membrane or rectum and when doing the Strumdorf operation makes it possible to keep a sterile field at all times.)

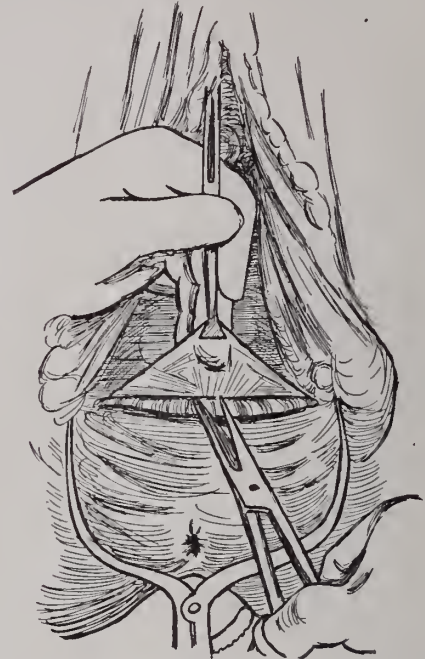


Fig. II.

The area of denudation should extend upward to the apex and lateralwards to include the walls of the rectocele. The pubococcygeal segments of the levator ani are now easily palpable and not infrequently visible. The triangular flap of mucous membrane is well outlined. The base extends from one point of the Gelpi to the other and the apex is at the uppermost point of the rectocele.



Fig. III.

6. Excise the flap with scissors.

7. With a thirty inch strand of No. 1. chromicized catgut on a round needle transfix the apex of the triangle and tie in such a manner as to divide the catgut, approximately, into a twelve and eighteen inch strand.
8. Apply a hemostat in the twelve inch length and drop it over the fourchette.

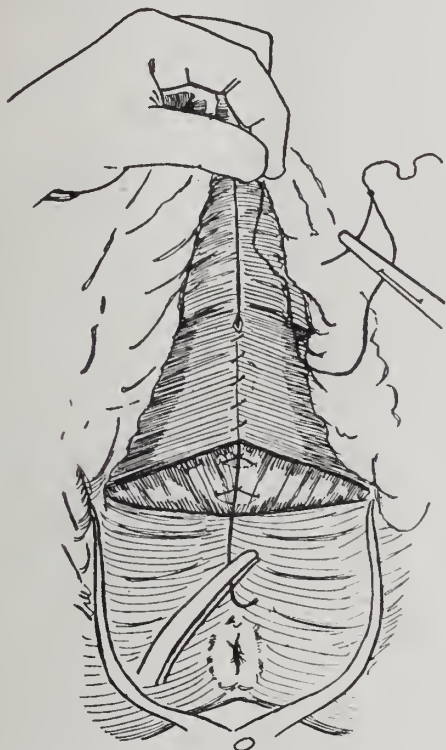


Fig. IV.

9. Grasp the needle with a Hegar needle holder and insert a continuous (Glover) stitch through the mucous membrane forming the sides of the triangle to a point to include the spurting vessels, (one on each side near the apex of the triangle) lock the suture and pierce a sponge with the needle. Lay the sponge and needle on the anterior abdominal wall.
10. With the assistant now making traction on the locked suture and Gelpi the index finger of the left hand is placed over the rectum and the latter protected from the field of operation by it. A fifteen inch strand of chromicized catgut on a medium sized round needle is introduced around the pubococcygeal segment of the levator ani, not through it. First on the patient's left side. Unthread the needle. Place a clamp on the end of the suture that now crosses the left labia majora and is outside the vaginal vault. Rethread the end lying within the vaginal vault on the same needle, again push the rectum out of the field of operation with the index finger of the left hand and pass the suture around the muscle on the patient's right.
11. Place a hemostat on the two ends.
12. Have traction made on this clamp, thus bringing the muscles together in the median line. Disregard the teaching these muscles should not be approximated. It is of theoretical importance only. While traction is made on this

suture place a second in the same manner as the first but on centimeter above.

13. Note that the twelve inch suture lies below these two sutures placed around the muscles.
14. Release traction on Gelpi retractor. Never tie a suture against tension. Tie the suture nearest rectum, the first placed.
15. Tie the second. Cut both.
16. Pick up the suture on the round needle and continue suture of the mucous membrane forming the sides of the triangle, either as a continuous (Glover) suture or a submucous one, to the fourchette.
17. Pick up the clamp holding the end of the twelve inch strand, remove it and tie to the free end of the eighteen inch strand. Cut in such a manner the ends of the catgut will protrude through the skin at the fourchette.



Fig. V.

Advantages: When traction is made on the twelve inch strand the apex of the triangle is pulled against the muscles forming the newly made perineal body, dead space is obliterated, hemostasis is promoted, the cut ends protruding permit drainage, vaginal packs are not necessary and the results are uniformly good. Grateful acknowledgement is extended Dr. Howard A. Kelly for suggestions given in connection with the development of this technic.

Urological Problems That Daily Confront the General Practitioner

GEORGE R. LIVERMORE, M.D., F.A.C.S.
Memphis, Tenn.

The life of the General Practitioner is a hard one, especially is this true of the man in the country and in the small town. Although he has had little or no training in the many specialties of medicine and surgery, he is called upon daily to treat, and is expected to know how to treat, something in almost every one of the specialties. It is my purpose to take up some of your urological problems and to help you along the way which is perhaps one of the roughest and toughest that you have to travel.

First we come to Farmer Brown, he is 72 years old, who has been voiding very well until 24 hours before you saw him, when he voided a few drops of urine and has been leaking a little at intervals ever since, but feels like his bladder is about to burst. In such an emergency, inject about one half ounce of 2% Novacaine with 2 grs. of Soda Bicarb in it into the urethra and retain it for 10 minutes, then inject K Y lubricant, or if none is at hand heat some olive oil or vaseline in a spoon till it boils and after it has cooled inject it into the urethra. Then pass a soft rubber catheter and if this enters the bladder allow all the urine to flow out, then put back into the bladder about 4 ounces of Boric Acid solution. If this is not handy, use boiled Saline solution (one teaspoonful of salt to a quart of water). This is very important for if an overdistended bladder is completely emptied and left empty, congestion of the kidneys may result and be followed by anuria and death. If the soft or metal catheter fails to enter the bladder and you have no filiform bougies with you, inject 1% Novacaine just above the symphysis pubis and pass a trocar into the bladder then take him to a Urologist. If you have no trocar use a large hypo needle and by suction with your syringe empty the bladder. The finger per rectum feels the prostate large and moderately firm.

If it is not so urgent to empty the bladder give the patient a hypo of morphine and sit him in a tub of hot water. This frequently will enable him to void. After catheterization be sure to give him uritone intravenously and urotropin by mouth.

You then pass on 10 miles away to the Widow Jones, age 45, who has had two chills during the night followed by high fever and profuse sweats. She has had some frequency, burning and nocturia for several days. There has been some pain and tenderness in both loins, she is aching all over and feels like she had malaria. She may or may not have frequency and burning. Please do not give her quinine till you have examined her blood and found the malarial plasmodium. Get a catheterized specimen of her urine and boil it in a test tube or small bottle. If not already cloudy, it will become cloudy on heating, add acetic acid and if it does not clear, albumin is present, and with the chills, fever and sweats means there is pus in it. If there is not enough pus to show albumin palpate her kidneys and see if they are tender and if not try fist percussion. A sick kidney is painful to fist percussion. Give her uritone gr.

xxxi intravenously and take a blood and urine specimen with you for examination. Tell her to drink plenty of water, a glass every hour and put her on urotropin gr. x four times a day. Check up on foci of infection such as teeth, tonsils, gall bladder, appendix, pus tubes, leucorrhoea, constipation, etc. Make her as comfortable as possible then refer her to some one able to make a urological examination.

You then step on the gas and drive to see Farmer Harris' boy, age 19, who is in bed writhing in pain from an epididymitis due to gonorrhoea. As you know the gonococcus may pass from the prostatic urethra (and by the way when an epididymitis develops you know that your patient has posterior gonorrhoea, in other words the disease has passed through the cut off muscle and involved the posterior urethra) through the ejaculatory ducts to the seminal vesicles and from the seminal vesicles down the vas to the epididymis. I know of no condition more painful than an acute epididymitis, therefore, your first duty is to relieve your patient of his pain with a hypo of morphine, then leave him some Aromatic Elixir of Morphine, or suppositories of Opium and Belladonna for relief after you have departed. A good one is on the market put out by Sharp & Dohme and is called suppository Opium and Belladonna No. 16 A Rectal S. & D. The best method of relief is support of the testicle and an ice bag, or a hot water bottle. If not too painful strapping the testicle up on the abdomen with adhesive plaster often works wonders. If too tender make a bridge with adhesive plaster from one thigh to the other and lay the testicle on the bridge, then apply 25% Ichthyol Ointment and an ice bag and give 1 c.c. of milk (boiled three times) deep into the gluteal region. Keep his bowels open with salts and give him some Methylene Blue pills 1, or Urotropin gr. x t. i. d. p. c. Remember Urotropin often makes the urine very acid, and it is not effective unless the urine is acid and hence may cause burning, frequency and straining. If it should, stop it and give Potassium Citrate gr. xxx and Methylene Blue pills. After the acute symptoms subside begin treatment to cure the gonorrhoea.

The cure of gonorrhoea however is usually very difficult and many of these cases will continue to discharge and annoy both the patient and his doctor for many months or even years. It is true that some cases will finally apparently clear up without any special treatment, but this occurs usually because the patient has built up sufficient resistance to hold it in check, but at the first indiscretion, drinking, exercise or intercourse it returns frequently with all the virulence of a new infection. Some cases too seem to clear up and yet the patient is left with a chronic prostatitis and seminal vesiculitis, or one or more strictures. These may cause little or no trouble for years and then may produce symptoms that make life almost unbearable. When this occurs it is not unusual for such patients to become sexual neurasthenics and a misery to themselves and everyone

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with whom they come in contact. The treatment of gonorrhoea resolves itself into, 1st, local treatment and 2nd, constitutional. Gentleness and freedom from irritating injections does more to cure gonorrhoea than all other measures combined. We use permanganate of potash gr. 1 to the pint as an irrigation and follow with 5% Argyrol, Silvol or Solargentum. In using the irrigation never use force and if you employ the Vallentine method never elevate the irrigation higher than 2 feet above the level of the nozzle.

The constitutional treatment consists in hygienic measures, simple diet and avoiding exercise, alcoholic drinks and sexual excitement and the administration of some urinary antiseptic. Urotropin is best but on account of the necessity of keeping the urine acid to get its effect, it causes burning on urination. Should it produce this effect discontinue it and give Methylene Blue pills, or Santal Oil capsules m x, and if necessary add Potassium Citrate gr. XXX. After the acute symptoms subside massage his prostate and vesicles and after the 8th week and with no acute symptoms pass a sound. If gonococci are still present in the fluid expressed after massage or the discharge that follows the passage of a sound; call for help.

You now crank up the old bus and chug on to see the wife of Joe Wheeler, who is seven months pregnant and has been having some frequency (which both you and she thought was and which is natural for women in her condition) but this morning about four o'clock she had a hard rigor followed by a high fever. Her temperature is 102 by your

thermometer and she is tender over her right kidney. She says she was very miserable during the rigor but since she warmed up she feels much better. There is no pain or burning on urination. A specimen of urine which she passed just before you came is cloudy, and on boiling becomes more so and does not clear on the addition of acetic acid. Perhaps you think of flu or malaria, but with the above symptoms a diagnosis of pyelonephritis of pregnancy is correct. Put her on Urotropin gr. x four times a day, have her drink, at least, a glass of water every hour, keep her bowels open and give her Urotone gr. xxxi P. D. & Co. twice a day and make her lie on her side, not on her back. If she does not improve try alkalies and stop urotropin and uritone. If no better in 24 hours send her to a Urologist for the passage of indwelling ureteral catheters. If this does not bring relief, an abortion should be performed.

You now hasten to see John Miller, age 46, who gives a history of hematuria for the past six months, but as it had not given him any pain or inconvenience, he has paid no attention to it. Today, however, he has been passing clots which often obstructed his urethra and made urination painful, frequent and caused much straining and he has had some colicky pain in his left loin and back. He had spoken to Dr. Do Nothing about it two months ago but he told him not to worry if it was causing no symptoms and had given him a bottle of cianathyn which had not helped him. On examination you find a hard oval mass in his left loin which is tender on palpation and slightly movable. This is probably a case of stone or tumor of the left kidney and should have an

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immediate urological examination. Never temporize with hematuria. It is always a danger signal. Do not give anything to check the hemorrhage, unless the diagnosis is made or the patient's condition demands it, e. g. hemorrhage from the urethra or bleeding which is very extensive and often causes difficulty in voiding. It may be controlled by the introduction of a retention catheter and irrigating with hot saline. It is a fact that a simple lesion such as a urethral caruncle may cause very bloody urine, while a very severe one such as cancer of the bladder or the kidney may not cause the loss of enough blood to cloud the urine, and when it does it causes a severe hemorrhage it may stop suddenly and never recur for months. I say do not give anything to check the hemorrhage before sending him to the urologist as it may be very difficult to locate the source of the bleeding, if the hemorrhage has ceased. Put him on urotropin and send him in for a complete study.

Returning to your office tired and worried your first patient is Tom Jones age 21, who has an ulcer on his glans penis. It is superficial, not indurated and he says it must not amount to much as it is not painful. Please do not begin treatment for Syphilis because he has a sore on the penis and please do not consider it a simple ulcer because it is not indurated, for after the deep, sloughing indurated and painful ulcer is a chancroid, while the simple superficial non-painful one is a chancre. Cleanse the ulcer with saline, then have it examined for spirochaetapallida. If there is no one in your town who is equipped for such work, apply a piece of gauze saturated with saline and send him to some one who can diagnose it for you. Never cauterize an ulcer on the genitals, or apply an antiseptic until you are sure of your diagnosis, because if the cautery or antiseptics are applied it makes it very difficult to arrive at a correct diagnosis.

Sores on the penis may be simple abrasions, herpes, chancroids, chancres, chigger bites or some skin disease, such as ringworm or scabies. Therefore the application of antiseptics or cautery destroys or greatly lessens the possibility of determining the true condition. If the patient really has a chancre and you begin treatment without knowing that he has syphilis, he may be careless about his treatment and never be cured, and if he only has a chancroid or herpes you may condemn him to a life of worry and fear to say nothing of the pain and expense of 3 years antisyphilitic treatment. I have seen one shot of mercury, one shot of salvarsan, or even one bottle of mixed treatment by mouth prevent the wasserman test from showing positive for 20 years or more. After the diagnosis is made and you are sure your patient has syphilis then begin treatment. This consists in the administration of Neo-Arsphenamine gm. 6 intravenously. I usually give six doses at weekly intervals, then begin hypos of Mercury or Bismuth, 24 of Mercury and 18 to 20 of Bismuth, two a week and then rest four weeks, and during the rest period give Potassium Iodide and a good Quinine and Arsenic tonic; have a wasserman, then begin another course of 6 Neo Arsphenamine grm. 6 and another course of Mercury and Bismuth, then another rest of four weeks then a wasserman and another series of Neo-Arsphenamine followed by Bismuth or Mercury. This ends the first years treatment, and the second is a

repetition of the first except that unless the wasserman shows positive, very little Neo-Arsphenamine is given. It is a wise plan to have a spinal wasserman made at the end of the first year's treatment and if positive more intensive treatment with Neo-Arsphenamine, Bismuth, Mercury and Iodides should be given. After two years treatment with all wasserman's negative for one year I make blood and spinal wasserman and both are negative in both antigens and in all dilutions and the cell count and globulin are normal. I then consider the patient cured but ask him to report twice a year for a check up and blood wasserman.

Your next case is old Mrs. Pinkingham, who comes for an examination as she says she has a growth in the mouth of her bladder. She has had frequency, burning and nocturia for months and recently has been passing blood stained urine. Upon examination you find a wart like growth protruding from her external meatus. This is a urethral caruncle which is a papilloma or simple growth and is rarely malignant, although I have seen two malignant cases in the past year. They are caused by irritating vaginal discharges, or more frequently from pus and toxic products from infection in the kidney and bladder. A caruncle is very easily removed but the removal of the cause is sometimes difficult, therefore, after its removal the patient should be subjected to a careful study in order to locate the cause. The best method for removing a caruncle is the high frequency current, or the radio knife as it leaves no scar or they can be cut off with scissors or knife, but great care must be exercised not to cut the mucous membrane for when this is done a scar will result and it's contraction may give rise to obstruction of the urethra. Cut the caruncle off near its base, then apply the high frequency current to the base.

Your next case is Mrs. Ella Thompson, who brings her one year old baby to you because it has been having fever and irregular gastro intestinal symptoms and cries when it voids. These symptoms began six months ago when she took the baby to Dr. Let-em-alone and he said the baby was teething and told her to give it milk of magnesia and to make it nurse less frequently. It would get better, then have more fever with vomiting and foul stools. The urine had never been examined.

You obtain a specimen and when examined it shows albumin, 10 pus cells to the h.p. field and a few red blood cells. From this you know you have a case of pyelitis. Put the baby on Potassium Citrate

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gr. XX, with Essence of Caroid and water four times a day, then have it cystoscoped and x-rayed to determine the cause of her symptoms and bring about a cure. One of the greatest mistakes that can be made is to follow the prevalent idea that children out grow pus in the kidneys and that it is only necessary to give Potassium Citrate or Urotropin and in time they will clear up. When seen in the acute stage, if the symptoms do not subside promptly and the pus in the urine clears up a complete urological examination should be made. Children stand cystoscopy much better than adults. They can be cystoscoped with the same degree of precision and with much less reaction. The only contraindications are a poor p. s. p. output and a high blood urea and creatini. I have cystoscoped a girl baby five days old, and a boy one month old. Children are subject to all the urological conditions that afflict the adult with the exception of hypertrophy of the prostate, and pyelitis of pregnancy, and in children we get the same symptoms and same destruction of the urinary tract that occurs in hypertrophy of the prostate, when there is hyperthrophy of the veru or urethral valves which are so frequently found in children.

Discussion By Dr. Hennessay

The urologist is able to provide protection to the patient suffering cancerous affections of the urinary tract only through their early recognition. It is the responsibility of every physician to recognize the significance of hematuria, for in forty-seven to fifty percent of cases its appearance indicates a cancer or

precancerous condition in the urinary organs.

Intermittent bleeding, which is so characteristic of renal tumor, unless promptly heeded may soon result in a tumor of inoperable size with hopeless metastasis. Early urological investigation will invariably detect its presence and a cure affected by early nephrectomy.

Bladder tumors frequently betray their presence through the appearance of blood in the urine. When recognized early, the more benign types may be destroyed by cystoscopic fulguration. In the more malignant types, the intolerable suffering may be obviated or the patient cured by surgical removal or surgical coagulation.

As in other fields of surgery discussed here this afternoon, until the cause of cancer is known it is only through the recognition of the early clinical evidences of cancer of the genito-urinary apparatus that the urologist is able to successfully cope with the problem.

This is Dr. Hennessay's discussion that should have appeared in our April issue. It was delayed on account of the much regretted death of his father.—Ed.

W. LIKELY SIMPSON, M.D.

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E. R. CLARDY, M.D.,
Associate

Daddy's Day

We wore our roses, white and red,
For all our mothers, living, dead.
With equal fondness, let us pay
Our tributes to our dads today.

For every father, everywhere,
Let every son and daughter wear
Some little symbol to impart
The deep devotion of the heart.

Each dear old daddy on this earth
Is just as full of solid worth
And just as winsome in his way
As any mother, any day.

His face and form are not so fair.
He lacks her lovely hands and hair.
He cannot match her voice and smile.
Her beauty beats him, mile on mile.

Though less sublime in grace and charm,
His love is just as live and warm,
His touch as tender to caress,
His life as full of loveliness.

For those he loves, he slaves and sings.
He builds a love-nest and he brings
His daily earnings with delight
To keep his hearth-fire burning bright.

He seldom seems to think of self.
He toils for plenty and for pelf
To gratify each want and whim
Of those who make the world for him.

If he is young, he dreams of days
When his may walk in golden ways.
If he is old, his heart is glad
To be a dear, indulgent dad.

Despite his sweet, unselfish zeal,
I wonder if he does not feel,
When recompenses are reviewed,
The sting of gross ingratitude?

Let every son and daughter wear,
For every father, everywhere,
Some little symbol just to say,
"I LOVE YOU, DADDY, EVERY DAY!"

—David E. Guyton.

Blue Mountain, Miss.

The Failing Heart In Middle Life*

C. L. SIMMONS, M.D.
Hazlehurst, Miss.

It is not necessary to point out with advancing years changes occur in the myocardium, as in all other tissues, impairing the heart's efficiency. These changes have probably been set up in early or middle life by acute affections such as acute rheumatic fever, typhoid fever, scarlet fever, syphilis, influenza and gonorrhea, which have given rise to no physical

sign. It is possible that extra systoles become more frequent in the latter years of life, they are produced by some obscure changes in the heart muscles. It is also possible that these changes are accountable for a large proportion of cases of new rhythm—such as auricular fibrillation or auricular flutter, which appears at either occasional periods as paroxysmal tachycardia, or persistently. Apart from these phenomena there is usually no physical sign of myocardial change beyond an occasional increase in the size of the heart. The most striking, and often indeed, the only evidence is the limited response to effort. There is a group of cases—patients who begin to exhibit their symptoms just before, at, or just after sixty years of age, in which the symptoms are so marked and so manifestly the outcome of myocardial degeneration that they deserve special attention. The most typical cases of this group are those with Bright's disease, when heart failure is the cause of the more prominent symptoms. Dyspnoea in these cases is readily provoked by effort, and Cheyne-Stokes respiration and attacks of cardiac asthma are not infrequent. Pain is sometimes provoked by exertion, and in the later stages the attacks become typical of angina pectoris.

Myocardial exhaustion is accompanied by other signs. The arteries are often thickened and the blood pressure high. The heart is enlarged, the apex being thrusting and forcible and situated outside the left nipple line. The heart's sounds are often muffled. Sometimes there is a well marked systolic murmur. The rhythm of the sounds is frequently of that triple character—the gallop rhythm. The cause of this gallop rhythm seems to be a lack of synchronism in the contractions of the ventricles. In some of my cases they have shown up beautifully in the electrocardiographic records and have demonstrated that there is a delay in the contraction of the right ventricle due to damage of the right branch of auricular ventricular bundle of His. There is also sometimes a delay in the transmission of the stimulus from auricle to ventricle. The rhythm of the heart is often quite regular, but frequently we meet with extra systoles and pulsus alternans. Dropsy gradually occurs and may become very extensive.

This description, though typical of chronic Bright's disease, is also characteristic of cases that have never shown albuminuria though albuminuria may appear at their latter stages. These cases usually drift and die, treatment being of little benefit. The postmortem examination of some of these cases has revealed extensive fibrosis of the heart muscle.

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*Read before the Tri-County Medical Society, March 14, 1935.

Woman's Auxiliary

TO THE
MISSISSIPPI STATE MEDICAL ASSOCIATION

Mrs. Dan J. Williams, Editor
Gulfport, Mississippi

OFFICERS MISSISSIPPI STATE MEDICAL ASSOCIATION 1934-1935

Next Meeting, May 14-16, 1935, Biloxi.

President, E. C. Parker, Gulfport.

President-Elect, J. R. Hill, Corinth.

Vice-Presidents, A. B. Harvey, Tylertown; Gilruth Darrington, Yazoo City; R. C. Smith, Drew.

Historian, L. S. Lippincott, Vicksburg.

Associate Editor, Two Years, D. W. Jones, Jackson.

Speaker of House, J. P. Wall, Jackson.

Councilor, First District, J. W. Lucas, Moorhead;

Second District, L. L. Minor, R4, Memphis, Tenn.; Third District, R. B. Caldwell, Baldwin.

Member Committee Public Policy and Legislation, W. H. Anderson, Booneville.

Member Committee Constitution and By-laws, W. H. Frizell, Brookhaven.

Member Committee Budget and Finance, J. B. Howell, Canton.

Chairmen Sections: Eye, Ear, Nose and Throat, A. G. Wilde, Jackson; Hygiene and Public Health, C. M. Shipp, Bay St. Louis; Other Chairmen not yet named.

Delegate A. M. A., J. W. D. Dicks, Natchez.

THE NATCHEZ MEETING

All glory to the splendid citizenship of Natchez who so graciously opened their lovely homes and extended a wholesome welcome to the members of the medical profession and their wives. It was a most inspirational meeting—the local Auxiliary covered itself with glory and to Dr. and Mrs. Dicks and all members we again vote the appreciation of every visitor. We shall look forward to another invitation.

OFFICERS 1934-1935

President, Mrs. Henry Boswell, Sanatorium.

President Elect, Mrs. Leon S. Lippincott, Vicksburg.

1st Vice Pres., Mrs. L. S. Gaudet, Natchez.

2nd Vice Pres., Mrs. T. J. Barkley, Isola.

3rd Vice Pres., Mrs. Hugh Johnston, Vicksburg.

4th Vice Pres., Mrs. C. E. Mullens, Bude.

Rec. Secy., Mrs. A. G. Wilde, Jackson.

Historian, J. W. D. Dicks, Natchez.

Parliamentarian, Dan J. Williams, Gulfport.

COUNCILORS

District 1—Mrs. J. A. Beale, Greenville.

District 2—

District 3—Mrs. L. L. McDougal, Booneville.

District 4—Mrs. E. C. O'Cain, Winona.

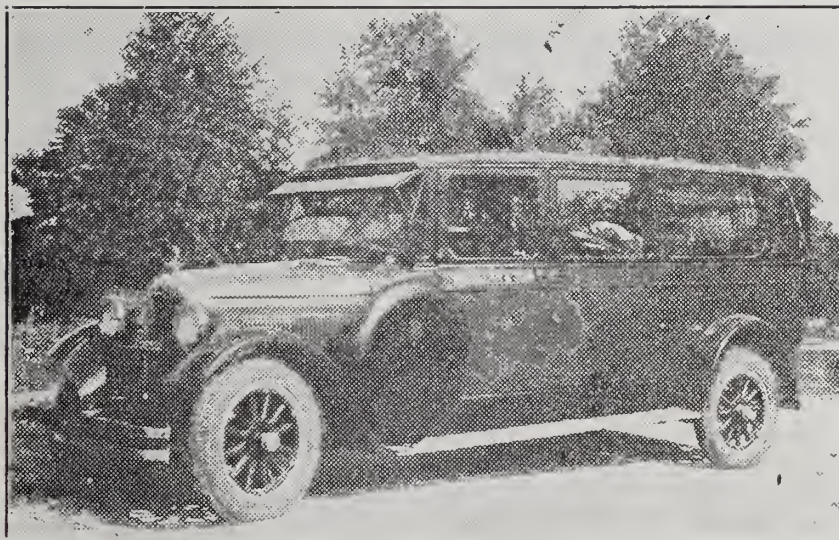
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\$5000 ENDOWMENT FUND IS GOAL OF WOMAN'S AUXILIARY

The Natchez meeting was full of the kind of things that make an organization worth while. The complete harmony and social intercourse was marked as usual and to Mrs. Van Alstine the retiring President, goes much esteem for her untiring and constructive work for 1933-34.

The major project is the building of a \$5,000 endowment fund for our "Preventorium" at Sanatorium. The doctors have been responsible for four years for securing funds to take care of such items as are not covered by the State appropriation, including play things, play ground equipment, etc. The purpose of the endowment fund is to have adequate interest to secure the needs perpetually.

Mrs. Dan J. Williams is again chairman of "Preventorium Fund" and she earnestly requests that each and every doctor and wife give this worthy project serious thought and send her any suggestions.



MRS. HENRY BOSWELL, PRESIDENT

To those of us privileged to know and appreciate our incoming President of the Auxiliary, Mrs. Henry Boswell of Sanatorium, there is so much we would like to pass on to those less fortunate. But we will say this and leave our readers the joy of checking up on us:

Mrs. Boswell is a true and devoted wife and mother—a loyal friend, a good neighbor with a compelling personality that at once makes you know you have met a rare and delightful type of womanhood upon coming in close contact with her. She is as-

suming the duties of President of the Woman's Auxiliary to the Mississippi State Medical Association at the urgent appeal of her friends, as her home duties are numerous, but we bespeak for her a most happy and successful year. A bit of her life to date is well worth passing on also.

Mrs. Boswell was born in Hopewell Church community 9 miles northeast of Oxford, Miss., September 10, 1889. Her father was a planter who had moved during the Civil War from Henderson County, Tenn., for safety with his mother after their plantation had been ruined and slaves freed, while her grandfather was a cannoneer in the Confederate army.

Attended the little country school at Hopewell until she entered college, but was tutored privately by one of Mississippi's greatest teachers, Miss Flora McFarland, in order to prepare for the Freshman class in college. Entered I. I. & C., in 1905, by examination, graduated in 1909 and accepted a position to teach in Laurel City Schools under Prof. Watkins, who is still head of that school.

Began in the fifth grade and was teaching High School English when she took on the job of looking after Dr. Henry Boswell, having met him in the fall of 1909 when he was designated to examine the throats of the children in her room during a diphtheria scare. They were married the following June 14, 1910, in Livingstone, Ala.

That same summer Mrs. Boswell took post graduate work at the University of Chicago to continue teaching but a rule against married teachers left her only the job of keeping house for Dr. Boswell who was at the time building up quite a surgical practice in Laurel. After his health gave way the following year, he went into Public Health work and she went along for a year as his microscopist in Hookworm campaign. When Dr. Boswell broke down with Tuberculosis and had to go west, she took up teaching again in Laurel for another session. Since then her job has been to look after him and rear a family of five children, the oldest, Helen, born at Oxford, the next, Georgia Neal, at Booneville, the other three, Henry, Barbara and Peggy, born at Sanatorium.

After Dr. and Mrs. Boswell settled at Sanatorium, Mrs. Boswell organized a Federated Club with men members—the first in the State, and perhaps only one to date. Was its First President, and now Honorary member. Mrs. Boswell served three years as State Secretary of Medical Auxiliary, and her records were highly praised. Has been whole heartedly interested in the work for "Preventorium" ever since its opening day, as well as all phases of Health work.

I know many of our readers will receive communications from Mrs. Boswell this year. My request of you is: Please answer when one comes to you.

DR. EDWARD CLIFTON PARKER, PRESIDENT

The Woman's Auxiliary to the Mississippi State Medical Association, extend welcome to President Dr.

HENRY G. RUDNER, M.D.

Clinic—Internal Medicine

1198 Madison Avenue

Memphis, Tenn.

E. C. Parker, of Gulfport. We feel that in him we have a friend who will suggest and encourage their activities, and lend a sympathetic ear at all times.

Dr. Parker is an "Auxiliary Husband," as Mrs. Parker has been active both locally and State-wide ever since their marriage.

Dr. Parker is knid, charitable, tolerant, and will go far to help a friend or anyone in distress. Being one of the outstanding surgeons of South Mississippi, he has a wide circle of local supporters at home who wish him a most successful administration.

Alcorn Doctors Met May 17

At the regular monthly meeting of the Alcorn County Medical Society held at the Waldron Hotel at 7:00 p. m. the usual scientific program was waived and reports on the Natchez meeting of the State association was had. Dr. Stanley A. Hill opened the report. Dr. W. H. Sutherland, the guest of the evening, gave a summary of the discussion on "Medical Care in the Family Budget" by Dr. Rorem but thought that sickness insurance would be disadvantageous to the doctor. Dr. D. W. Hamrick, in appropriate tribute, brought the attention of the members to the fact that their own Dr. J. R. Hill was honored by being made president-elect of the State organization. Dr. M. W. Robertson stated that, in the Council, he worked against the state-wide chartering of county societies.

Additional information brought from the Hospital Association revealed that Group Hospitalization was considered advisable if the hospital managed

the plan, but not if an outside company which would take one third of the funds put it on. Alcorn County—400 miles from Natchez—was proud to have had six representatives, the largest delegation ever, at the State meeting.

The twelve present enjoyed a tasty dinner and adjournment was made in proper form at 9:00 p. m.

Program

of the
Thirty-Seventh Annual Meeting
of the
Association of Surgeons
of the
SOUTHERN RAILWAY SYSTEM

To be Held at
THE HOTEL PATTEN
Chattanooga, Tenn.
June 12th, 13th and 14th, 1934

Arrangement Committee

Dr. E. Dunbar Newell, Chattanooga, Tenn.
Dr. Edw. T. Newell, Chattanooga, Tenn.
Dr. E. C. Johnston, Chattanooga, Tenn.
Dr. Willard Steele, Chattanooga, Tenn.

ORDER OF EXERCISES

Tuesday, June 12, 1934

9:30 a. m.—

Registration of each person (member, guest or

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visitor) at the desk of the Secretary.

10:30 a. m.—

Meeting called to order by Surgeon Edward T. Newell, Chattanooga, Tennessee, Chairman of Program Committee.

Invocation—Doctor Jas. L. Fowle, Chattanooga, Tennessee.

Address of Welcome: Hon. J. J. Lynch, Local Counsel, Southern Railway Company, Chattanooga, Tennessee.

Report of Committee on Arrangements.

Report of Secretary and Treasurer.

Report of Committee on New Members.

Report of Executive Committee.

Report of Committee on Necrology.

TUESDAY MORNING SESSION—PROGRAM

President's Address—Doctor J. T. Burrus, High Point, N. C.

1. "The Problem of Appendicitis"—Doctor W. H. Anderson, Booneville, Mississippi.

To Open Discussion—Dr. Edward T. Newell, Chattanooga, Tennessee.

2. "Fractures in and About the Ankle"—Doctor S. R. Miller, Knoxville, Tennessee.

To Open Discussion—Doctor E. Dunbar Newell, Chattanooga, Tennessee.

3. "The Traumatic Back in the Realm of Industrial and Railway Surgery"—Doctor W. C. Bostic, Forest City, North Carolina.

To Open Discussion—Doctor S. R. Miller, Knoxville, Tenn.

TUESDAY AFTERNOON SESSION

2:00 p. m.—

4. "First Aid and Treatment in Fractures, Slides, Splints"—Doctor Edward T. Newell and Doctor Cecil E. Newell, Chattanooga, Tennessee.

To Open Discussion—Doctor Hugh Black, Spartanburg, S. C.

5. "Electro-Coagulation of Tonsils by Diathermy"—Doctor E. E. Bailey, Demopolis, Alabama.

To Open Discussion—Doctor W. W. Potter, Knoxville, Tenn.

6. "Some Few Cases of Cavernous Sinus Thrombosis"—Doctor N. T. Clark, Spartanburg, S. C.

To Open Discussion—Doctor Willard Steele, Chattanooga, Tenn.

7. "Corneal Ulcer"—Doctor Willard Steele, Chattanooga, Tenn.

To Open Discussion—Dr. W. W. Potter, Knoxville, Tenn.

WEDNESDAY MORNING SESSION

9:30 a. m.—

8. "Some Observations on the Treatment of Fractures in General"—Doctor E. Dunbar Newell, Chattanooga, Tenn.

To Open Discussion—Dr. W. S. Nash, Knoxville, Tenn.

9. "Report of Cases"—Doctor G. P. Neel, Greenwood, S. C.

To Open Discussion—Doctor George Edward Wilson, Rockwood, Tenn.

10. "Pistol Shot Through the Stomach"—Doctor Thos. H. Hancock, Atlanta, Ga.

To Open Discussion—Doctor Agnew Thomasson, Dayton, Tenn.

WEDNESDAY AFTERNOON SESSION

2:00 p. m.—

11. "Traumatism of the Knee"—Doctor W. W. Harper, Selma, Ala.

To Open Discussion—Doctor Thomas H. Hancock, Atlanta, Ga.

12. "Skin Infections"—Doctor D. S. Middleton, Rising Fawn, Ga.

To Open Discussion—Doctor W. W. Harper, Selma, Ala.

13. Subject to be announced later—Doctor K. T. Klein, Meridian, Miss.

To Open Discussion—Dr. W. E. Gallion, Oakdale, Tenn.

THURSDAY MORNING SESSION

9:30 a. m.—

Unfinished Business.

Election of Officers.

The remainder of the day will be given over to entertainment. Announcements will be made the first day of the meeting.

LADIES' AUXILIARY

President—Mrs. E. Dunbar Newell,

There will be a meeting of the Auxiliary on Tuesday, June 12th, at 10:30 a. m.

Important announcements will be made. All members and applicants for membership should attend.

Following the meeting there will be a luncheon for the ladies at the Patten Hotel.



Dr. W. A. Toomer of Tupelo who is now a member of the "super board" which has control of the state's eleven eleemosynary institutions. Dr. Toomer is a man of fine character and good judgment. He is well informed on general questions. He has a human heart and he loves justice. His selection was a good one.

FOR SALE—Guinea Pigs, all sizes, prices reasonable, prompt shipments. Write Mrs. Fannie G. Green, Booneville, Miss.

Infantile Eczema*

W. PIERRE ROBERT, M.D., F.A.A.P.
Vicksburg, Miss.

According to Moro, infantile eczema may be divided into three groups, (1) seborrheic dermatitis, (2) true eczema and (3) erythrodermia desquamativa. Seborrheic dermatitis affects most often fat babies, the lesions appearing on the scalp, face, back and chest and consisting of inflammatory redness and scales. Very often the patches are sharply circumscribed and bear a close resemblance to psoriasis. This type rarely persists more than a few months.

True eczema may be seen on any part of the body, but the face presents the lesions in their most characteristic and severe forms. In a narrow sense, it may be said that the typical lesion of true eczema is a vesicle. Pusey, of Chicago, has described the development of eczema as follows: When an inflammatory reaction occurs in a spot in the skin there is produced first from hyperaemia a red macule; if the inflammatory process increases, swelling from the exudate forms a red papule. If the process goes still further, the inflammatory edema invading the epidermis ruptures the epidermis and collects in a cavity, forming a vesicle on a hyperemic base. The contents of this vesicle may become purulent from invasion and breaking down of leucocytes, with a resultant pustule. Or the roof of the vesicle may rupture and have a blood red point denuded of horny epithelia and therefore weeping. When proliferation of connective tissue cells occurs, there develops a chronic inflammatory induration. These changes in our hypothetical spot of inflammation in the skin represent all the types of eczema; namely, erythematous, papular, vesicular, pustular, weeping and squamous. It is the innumerable combinations of these various inflammatory lesions, which produce the picture of dermatitis termed eczema.

Erythrodermia, first described by Leiner in 1908, is characterized by a diffuse inflammatory redness and often covers the entire body. There is always a certain amount of desquamation and often some seborrheic manifestations as well. There is a generalized glandular enlargement and the general condition of these infants is always poor. The skin is neither very dry nor weeping, unless secondary changes have taken place due to irritation. I believe that Hill (1) is correct in stating that this is simply a very severe form of true eczema.

ETIOLOGY: We must admit that the usual factors that produce or aggravate an eczema are entirely harmless to the majority of babies. In other words, the first requisite to the development of an eczema is an eczematous constitution. We infer this when we state that these people are allergic. These individuals are sensitive to some substance which in infants is usually a protein delivered through the intestinal tract. Blackfan (2) was the first to report an extensive series of cases, in which skin tests were performed. It has been determined many times that eczematous infants respond to skin tests for protein much

more frequently than do normal persons. It is confusing to find an infant sensitive to some food which he has never eaten and which could in no way be directly responsible for the eczema. We attempt to explain this on the basis of non-specific allergy. Specific allergy paves the way for non-specific allergy and the assumption that an infant is sensitized to some specific protein, either in utero or post-natal life, probably through breast milk, which sensitization not only renders him sensitive to that particular protein, but also places him in the group of allergic persons so that he may become sensitive to other proteins or physical agents explains much in eczema.

Walzer (3) has proven that the passage of undigested proteins through the intestinal epithelium is common. He showed this first in 1926 with fish protein and in 1928 with egg protein. Ratner experimentally has demonstrated that unaltered protein can pass through the placental barrier and reach the foetal circulation. He has noted that when an expectant mother overindulges in a certain food that the infant is likely to be specifically sensitive to that food. This same observation was made by Hill, who states that there is enough evidence available, both experimental and clinical, to warrant the assumption that sensitization of a foetus in utero is probably very common and that this is the primary step in the development of many allergic eczemas.

O'Keefe (4) and Shannon (5) were the first to bring forth evidence to show that unaltered protein may pass through the breast milk and sensitization be produced in this way. Donnelly (6) showed that protein of egg might be eliminated in small quantities by lactating women in their milk. From the present evidence it would seem that sensitization by means of breast milk is not so important in producing the original specific sensitization in eczematous infants as is sensitization in utero. However, clinical evidence shows that it may be important and that it must be taken into consideration in the actual management of a patient. When skin tests are made, the three proteins most commonly reacted to are eggs, wheat and milk. Most babies develop eczema long before they have eaten eggs. And the major portion of these babies are bottle fed. We explain their sensitivity to egg protein in the following manner: The infant in utero is made allergic by a primary sensitization to eggs. The allergy then branches out in several directions, there being a secondary sensitization to milk and wheat. Thus we can readily understand why a specific protein is not necessarily the cause of

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*Read by invitation before the Central Medical Society, Jackson, Miss., April 3, 1934. From the Pediatric Service, Vicksburg Clinic, Vicksburg, Miss.

the eczema, even though the skin test is positive. On the other hand a negative test does not necessarily mean that the infant is not sensitive to this protein, for it is quite possible that the sensitization is too slight to give a positive skin reaction, but enough to produce eczema (Schloss). Then too it may be that the infant is sensitive to some intermediate product of protein digestion, such as Histamine. It takes a certain amount of tolerance for the production of an eczema and an infant that is hyper-sensitive to a protein will be made violently ill by its ingestion.

There are a number of other agents of considerable importance in the production of eczema. First is trauma. Whatever internal cause produces an eczema produces also a skin which is hypersensitive to all external irritation. The importance of trauma cannot be over estimated. By trauma I mean rubbing and scratching. Second, infection. The role of low grade infection in eczema was emphasized recently by Glaze (7). Third, fungi. In 1927 and 1928, White and Schwartz (8) adduced much evidence indicating that some cases of eczema in infants were due to fungi. They stated this was particularly true of those cases that persist into childhood. No doubt a great many cases of seborrheic dermatitis are due to some form of parasites, as evidenced by the fact that so many of them respond to antiparasitic ointments. Fourth, external irritants. While not playing as an important part in the causation of eczema, as in asthma, there are articles such as orris, feathers, wool and silk which are responsible for certain cases of infantile eczema.

Recently Peck and Salomon (9) have reported better results with the patch test than the scratch test and they state that if more external causes were searched for that more cases of eczema would be cured. An eczema may be aggravated in other ways, as by change in temperature, exposure to wind or application of strong soap, et cetera.

Fifth, overfeeding. This is especially true in breast fed babies. The eczema is **not** caused but is **aggravated** by hyperalimentation. There may be over feeding in general or the child may be overfed with any one of the food elements. Towle and Talbot (10) in 1912 called attention to the frequency in eczematous babies of fat intolerance. In such cases, a good result is often obtained by reducing the fat in the dietary. It is probable that this fat does not act directly but secondarily by preventing the proper digestion of protein. At any rate, for years a low fat diet was very popular in the management of these cases. It is not wise to reduce the fat in the diet over too long a period of time and I have never bothered to limit its intake unless there was a history suggestive that fat was being grossly overfed or unless there was definite evidence of fat intolerance. The same principle is true of starch and sugar. It is always a good idea to examine the stool of these infants very carefully and if any signs of fat, starch or sugar indigestion is present the eczema will usually improve when the diet is corrected.

Campbell (11) states that heredity and prematurity play a large part in the etiology of infantile eczema. Hill (1) is of the opinion that heredity plays a very minor part, but differs from most observers in this respect. Statistics show that there is a positive family history of allergy in from forty to seventy per

cent of all cases of infantile eczema.

Teething, advanced by some as the cause of eczema probably acts in a secondary manner due to its effects on the sympathetic nervous system.

TREATMENT: General. I think the reason that so many of us experience poor results with our eczema cases is that we pay too little attention to them. First of all, we must prepare the mother for a long siege by explaining the time element to her. If this is not done she may not give us a fair trial. The importance of a very careful and detailed history cannot be overestimated. The mother's diet during pregnancy, and if a breast fed baby, the mother's diet at the present time should be sifted. The relation of the onset of the eczema to certain new foods must be noted. If a bottle fed baby, the time element in relation to weaning, et cetera. We also like to know how many physicians have been consulted and what treatment has been tried. Very often the causative agent is apparent immediately after the history is taken.

Skin tests are a great deal of trouble and are often inconclusive, but at times they give us such important information that in all cases of severe eczema, when a patient is over four months of age, I use them.

Scratch tests are made using the following and if the child is old enough and eating vegetables and meat we test for those too:

- | | |
|----------------|--------------|
| 1. Lactalbumin | 8. Tomato |
| 2. Casein | 9. Orange |
| 3. Egg white | 10. Wool |
| 4. Egg yolk | 11. Silk |
| 5. Barley | 12. Orris |
| 6. Wheat | 13. Cat hair |
| 7. Oat | 14. Feathers |

Eczematous babies should be treated as sick patients, put to bed and kept there. For some reason, their resistance to upper respiratory infections is very low and for this reason they should not be about other children more than is necessary. The nursing care is as important in this condition as in pneumonia. We must view with suspicion every article coming in contact with the child's skin. It is better to let him wear nothing but a diaper or a cotton woven garment, which is better than flannellette, wool or silk. If any particular food is suspected and it is possible to do so, this food should be removed from the child's diet. Any dietary error should be corrected. A breast fed baby is often made better by cutting down the number of feedings and diluting each feeding. I have obtained some striking results after removing the offending protein from the mother's diet. When the breast milk protein is responsible and weaning becomes necessary an evaporated or dried milk formula usually does the trick. When cow's milk in any form cannot be tolerated, we have a very good substitute in sobee. At the present time I have three patients on sobee. One of them has been on it for four months and all three are gaining nicely. When this

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product is used, cod liver oil and orange juice must be given freely.

Soap and water are irritating to most eczemas. The skin should be cleansed with cold cream, vaseline, olive or mineral oil.

The best way to prevent scratching and rubbing is by tying the wrists and ankles to the sides of the crib or to parallel bars placed over the head of the bed. At times, it is sufficient to pin long sleeves to the sides of the diaper. Occasionally a masturbation splint must be applied to prevent leg rubbing.

Local treatment: When we assume that infantile eczema is caused by foods, we cease to expect a cure by local treatment. However, much of the pathologic condition of the skin is secondary and much may be done by proper local treatment. No local treatment, however, can transform an allergic baby into one who is non-allergic. First of all, we must remember that the eczema is usually in different stages on different parts of the body and the lesions of one part may require entirely different treatment from those on another area. All preparations used locally should be used frequently enough to be always on the skin, no matter how constantly the child rubs it off. The mistake is often made of prescribing a salve to be used three times daily. The scalp is usually very easily dealt with. Daily applications of boric acid ointment for five days, under a bandage or stocking cap and at the end of that period a thorough shampoo with Ivory or Castile soap and water will usually clear it up.

The face is probably the most difficult area to clear up. It is next to impossible to keep the child from rubbing some part of the face. It is pitiful and at the same time interesting to watch some of these eczematous babies. They are regular contortionists. I have not found masks at all satisfactory and when it is advisable to cover the face and scalp, I simply apply a head and face bandage and this helps to prevent rubbing by keeping the chin and neck away from the chest. For the weeping eczema I use a bandage moistened with or moist compresses of the following: Liquor of lead subacetate, U. S. P. and saturated solution of aluminum acetate, of each ounce one-half to six ounces of water. This was originally recommended by Schlotz. If the itching is very severe and the baby very fretful a weak solution of lead and opium water is effective. After these lesions are dried up usually in twenty-four to forty-eight hours, an ointment may be applied. My favorite ointment is a one per cent carbolic acid and two per cent resorcin in equal parts of cold cream and vaseline. I don't imagine I use as much tar as most doctors, but after most of the acute inflammation has subsided, a tar ointment such as the following works very nicely: Crude coal tar drams 2, zinc oxide drams 4, starch drams 8, vaseline ounces 4.* The lesions on the body are treated in about the same manner, except that a stronger ointment can be applied sooner. I believe that most cases are overtreated locally rather than under treated. In order to stop the itching, phenol, anesthesin, butesin picrate or ephedrine sulphate may be incorporated in any salve. Ammoniated mercury clears all infection quite readily. Tar is contra-in-

dicated in the presence of pus.

In addition to a correct diet and the proper local treatment in selected cases, one or several of the following at times give excellent results: (1) triple distilled water, (2) arsenic, (3) gland extracts, (4) calcium therapy, (5) actino therapy, (6) roentgen ray. It is surprising at times what excellent results follow the use of arsenic. It is used either in the form of Fowler's solution or may be given intramuscularly as sulpharsphenamine. I use calcium therapy routinely. The actinic ray is an excellent tonic for the skin and in those cases seen early or in those where the lesion advances to a certain stage and won't quite clear up a couple of treatments per week may yield excellent results. The roentgen ray is reserved for those more experienced and bold in its use than the writer.

Before closing, I want to say just a word about the prevention of eczema. Mevane (12) claims that practically all eczemas could be prevented if the newborn baby were looked after more carefully, viz: If he had adequate water supply, a mild alkali by mouth, non irritating baths and proper clothing and proper type and amount of food. I think that the pregnant mother should watch her diet in regard to constantly over eating any one food. The children of allergic antecedents should be watched very closely. The slightest skin roughness should receive the proper treatment. An adequate, complete and non-irritating diet for the infant will provide fewer gastro-intestinal upsets and fewer chances for unaltered protein to pass through the epithelium and cause a sensitivity. As Stewart (13) has aptly said, "we may conclude that the etiologic agent producing eczema is least effective under conditions of minimal skin and minimal gastro-intestinal irritation."

Fially, allow me to thank you for the opportunity of appearing before your distinguished body. I recall with much pleasure the scholarly address of the essayist you so kindly sent to our society and I regret that my remarks must in contrast appear so commonplace.

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*Mix tar with zinc oxide, starch with vaseline and then combine the two mixtures.

Program of the

Northeast Mississippi Thirteen Counties Medical Society

TUESDAY, JUNE 19TH, 1934 AT

GREENWOOD SPRINGS, MISS. 10:00 a. m.

Greenwood Springs is 15 miles from Amory, and 20 miles from Aberdeen. Inquire at either of these towns.

PROGRAMME

Greenwood Springs Pavilion—Tuesday, June 19, 1934

Meeting Called to Order—Dr. J. M. Hood, President.

Invocation.

Reading and Adoption Minutes Last Meeting.

1. "Coronary Thrombosis"—Dr. A. E. Brown, Columbus. Discussion opened by Drs. Kane and R. B. Cunningham.

2. "Diarrheas in Infancy and Childhood with Special Reference to the Infection Type"—Dr. E. C. Mitchell, Memphis, Tenn. Discussion opened by Drs. R. M. Boyd and W. L. Stalworth.

Lunch.

3. Useful Methods of Treating Fracture of the Femur—Dr. Stanley Hill, Corinth. Discussion opened by Drs. Philpot and Kirk.

4. "Glaucoma"—Dr. H. J. Kellum, Tupelo. Discussion opened by Drs. Armstrong and Staton.

More pedestrians are injured by falling than are injured by automobiles.

Matrimonial Agent: There is one other lady I can offer you—but I will be honest with you and tell you in advance that she limps and squints and has false teeth.

Applicant: False teeth! Are they gold? Yes? I'll take her.

"Why, Jimmie," exclaimed a mother to her five-year-old hopeful, "aren't you ashamed to call your Auntie a dumb-bell? Go to her at once and tell her you are sorry."

"Auntie," said the little man, "I'm awfully sorry you're a dumb-bell."

Neighbor, just returned from an afternoon of golf: Good heavens! You don't mean to say you've been working in the garden ever since seven o'clock this morning! I wouldn't think of doing such a thing.

Victim: I wouldn't either; it was my wife who thought of it.

Public Health News

Since January 1, 1934, 127 heads of animals supposed to have rabies have been examined by the State Hygienic Laboratory of the State Board of Health. Rabies was found to be present in 70 of these heads. Since January 1, the Laboratory has sent out 570 rabies treatments to persons in Mississippi who have been bitten by rabid animals.

On April 2 and 3, the State Board of Nurses Examiners conducted examination of nurses at the Robert E. Lee Hotel, Jackson.

Dr. H. C. Ricks of the Mississippi State Board of Health attended the meeting of the Northeast Mississippi Medical Society at Pontotoc on March 20. Dr. Ricks drove up with Dr. W. A. Dearman, Member of the State Board of Health, Gulfport.

Miss Gladys Eyrych, Supervisor of Mouth Hygiene Work for the State Board of Health, addressed the Woman's Club at Magee on April 5.

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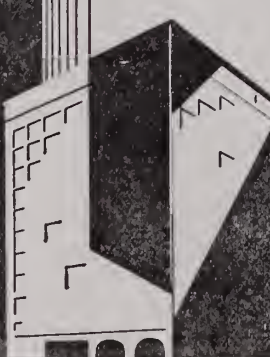
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THE MISSISSIPPI DOCTOR

OFFICIAL ORGAN

MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

VOL. 12

BOONEVILLE, MISSISSIPPI, JULY, 1934

NO. 2

THE MISSISSIPPI DOCTOR

Down in dear old Mississippi,
Dreamy, drowsy, lotus land,
All the people are so healthy
Doctors are in small demand.

There is not a stately city
In her borders, anywhere;
But her little towns are lovely
And her fields are sweet and fair.

All her sons and all her daughters
Dwell contented on her soil.
Health is in her healing waters
For her tillers as they toil.

Still the Mississippi doctor
Has a mission to perform,
And her people do him honor
With a tribute, true and warm.

When a mother bears a baby,
He is always at her side.
Every patient, high or humble,
Is his passion and his pride.

For the Mississippi doctor,
Every call's a clear command
Neither night, nor storm can daunt him,
Empty purse or idle hand.

God-anointed as a healer
Of his people in their pains,
He's the hero of the sick-room,
Giving battle till he gains.

Ruddy health for those who suffer,
Or till Death has had his toll,
Like that other Great Physician
Of the body and the soul.

May the Mississippi doctor
Make his mission still sublime.
Ever love and serve and succor
Till the utmost end of time.

And in grateful recognition,
May our people give him praise
For his blessed benedictions
As he walks his kindly ways.

—David E. Guyton.

Blue Mountain, Miss.

(HOLT AND McINTOSH: HOLT'S DISEASES OF INFANCY AND CHILDHOOD, 1933)

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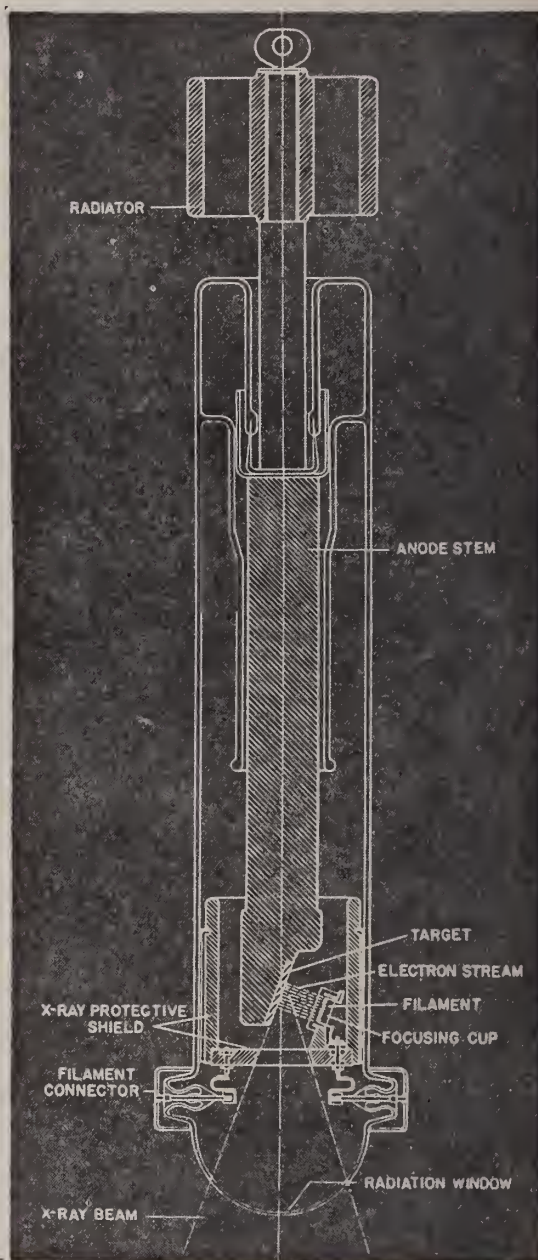
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M. D.

The Mississippi Doctor

The Journal with a vision, the delivery of modern medicine to the masses at less cost to the individual and more profit to the practitioner. The champion of the small hospital, the hub around which this service must be built.

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 the Act of March 3, 1870.

EDITORIALS

Our 13 County Medical Society held its June meeting at Greenwood Springs on the 19th. It was quite well attended. President Hood presided with efficiency. Dr. James Acker Jr., our efficient secretary was at his post of duty. The Monroe County doctors as usual entertained us most royally. There were present a number of distinguished and appreciated visitors. Among those were Dr. Seale Harris of Birmingham and Dr. Cunningham, president of the state association of Alabama. Dr. Nick Walker, of Dyersburg, Tennessee, a native of Baldwin, Miss., and a former president of the MidSouth Post Graduate Medical Assembly. It always does you good to see Doctor Nick Walker. And there was Dr. P. W. Rowland of Oxford, president of the Mid-South. He has been one of the chief corner stones of the Medical school at Ole Miss for many years. He is a scholar of the first water, cultured and refined. Dr. Edward Clay Mitchell of Memphis was the guest speaker of the occasion. It was good to have him and it will do you and your clientele good to read his paper in this issue. He is outstanding in the southern states in the specialty of pediatrics. Our own Doctor Jim Hill, president-elect of the Mississippi State, was at his post of duty as usual. Dr. Stanley Hill and Jack Kellum appeared with papers for their first time. You will know when you read them that their papers were good indeed. There were other visitors that we appreciated. Our next meeting will be held in September in the city of "Houlka" of which Houston is a suburb. It is the home of President Hood and of the noted, beloved practitioner, orator, statesman and citizen, Dr. Walker. It will be good to be there in September. Houlka is a quiet and quaint little town, but the blue sky comes down an equal distance all around, makes it look like the center of the universe, and is kindly protects a people who are cordial, who are friendly, who are God-fearing and who will receive you with a southern hospitality that will make you richer for having gone.

You will read with much interest the paper in this issue by Dr. Finney, of Baltimore, read it because it speaks with the utmost authority on the subject and because he is our own Dr. Finney. He is a native Mississippian, a product of the historical Natchez. He appeared on the state program at the state meeting. It was a joy to have him. He is a master in the profession. He is known and loved throughout the United States. His knowledge and judgment is respected in that great University, Johns Hopkins. But with all of his learning he is very human, he loves people and enters into their joys, their trials and their troubles. He is a student of human nature. He seemed to enjoy the little city that gave him birth. He was received with the most cordial hand by his little home city and by the entire state medical association. His genial spirit and warm heart and hand shake made the atmosphere refreshing and inspiring. We want his to come again to the Mid-South and to the Mississippi State Medical Association. The latch string is on the outside, Dr. Finney. We are proud of you and we appreciate your contribution to medical science and your gift to citizenship.

212447

Association of Surgeons of the Southern Railway System met June 12-14 at the Patten Hotel Chattanooga, Tenn. Dr. Applegate, Surgeon-in-Chief, formerly of Chattanooga was there with his usual genial good will and good wishes. Dr. J. T. Burrus of High Point, N. C., was president. He presided with ease and efficiency. He is an able man in the profession. He has a kind heart and a cultured mind. He knows how to make every one free on the floor of the association. This is the outstanding trait of this association. Dr. W. W. Harper, of Selmer, Ala., deserves much credit for the development of this spirit in the association. The attendance was not so full, but it was one of the most interested group we have ever seen at a meeting. Chattanooga is the Newell boys, Dunbar and Ed, cousins. When it comes to safe, sound, common sense in the treatment of fractures it would be hard to find their superiors. They certainly know how to make visiting doctors feel good. They operate a fine hospital in the city. Fractures are not all they know. We appreciated and enjoyed the luncheon given by Dr. Ed Newell at the Park Hotel. Chattanooga is an interesting city. It was profitable and pleasant to be there. The next meeting will be in Washington, D. C.

In this issue you will see a brief history of the King's Daughters Hospital of Greenville. For this splendid write up and cuts we are indebted to our contributing editor Dr. F. M. Acree. The Delta and the State at large should feel much pride in a hospital like this. We want the profession generally to know what Mississippi and Tennessee and Arkansas have in the way of splendidly equipped hospitals, especially in the smaller towns. This is the beginning of a hospital department for The Mississippi Doctor for an indefinite period of time. We hope to have one each month for the next several years. The journal is making no charge for this except the actual cost of production, cost of cuts and paper. The medical profession and the masses must meet in the town of from one to ten thousand population. The really sick patient must be treated in the hospital, a large percent of them. It can be done better here and more economical also, or should be. We believe that Mississippi is taking the lead for the small town hospital for the entire world. Arkansas and Tennessee will follow close behind. We want to know about your hospital. We want others to know. Write us when you will be ready with your cuts and your history. This is "Know Our Hospitals Better" department so to speak. We are delighted to start off with the King's Daughters, the queen of the crowd perhaps.

We are sure you enjoyed President Dicks' address in our last issue of the journal. It was a master piece. We failed to give credit to the New Orleans Medical & Surgical Journal in which it was first published. We are appreciative of this courtesy.

We appreciate the one half page advertisement from the Richards Manufacturing Co., of Memphis. Everything else being equal give him a chance in his line. Help the fellow who helps you. It is not a bad policy.

There has been, among other men and women of science, but one Madame Curie. Essentially a devotee to science, yet the springs of her life were fed by a deeper principle—to serve a suffering humanity. All the strenuous years of her life, complicated by difficulties and the weight of advancing years, were dominated by a passionate desire to bring more light from nature's secret chambers of darkness. Even when racked with pain and she realized that the shadow of death was creeping over her, her heart still yearned toward the discovery perhaps another element still concealed in the uranium oxide with which she had experimented for twenty years. Her assistants had full knowledge of the progress of her studies and research that her work might continue.

Born in Warsaw, Poland, Nov. 7, 1867, the daughter of professor of physics, she came to Paris when she was twenty-four to study chemistry and physics under Becquerel, with whom she and her husband, Pierre Curie, announced in 1898 their discovery of a radio-active substance which she called polonium after native country. Further researches resulted in the discovery of radium, which has blessed thousands with relief from cancer and other tissue diseases.

Mourned by the world generally, exalted to the highest place science has ever given woman, a deeper lament goes up from the medical profession to whom her discovery came as a betterment of humanity. France may honor her by allowing her burial in the Pantheon, science may laud her as a star that stood apart, but as long as the rays of that most costly of substances, radium, continue their activity, so long will medicine and human sufferers pause to bless the name of Madame Curie.

The death rate in acute appendicitis is entirely too high. The era of application is upon us. The challenge is to the rank and file of the medical profession. Eternal vigilance in artful application will surely be rewarded. Dr. Time is the chief surgeon in the acute appendix. The general practitioner is the watch dog of the human abdomen. He must know his sick appendix. He must warn the public the danger of delay, the hazard of the strong purgative, the insult it is to the sick appendix. The constant abdominal pain that lasts even one hour should be considered appendicitis by the laity and the family physician should be called, and he should so consider it until he can prove it otherwise. The small hospital must be established out on the commercial firing lines throughout the United States, in every one to three or four counties. It can be a great means in educating the medical and nursing profession and in turn the laity. County medical societies should educate the laity to act intelligent by means of the country weekly, their greatest educational medium. Time waits for no man. If you squander your time in acute appendicitis, the tide of peritonitis will carry him to his grave. Every dog has his day. The artful application of the known medical truths by the general practitioner is what the world needs most today. Glory and honor to him. He will see that DR. TIME has a chance at the acute appendix.

You will read with pleasure the poem on the front cover, "The Mississippi Doctor," the practitioner, not the journal. We thank Prof. David Guyton for this poem. It is worthy tribute. The Mississippi doctor has been put to the test the last few years. We have been in the midst of the most serious war this nation has known. The doctor, the practitioner, has been put through the sweat mill. He has not been found wanting. No greater courage has been manifested on any battle field than by the practitioner of medicine in this country. The cry of suffering humanity was loud, the gasoline was scarce, debts weighed heavily upon the doctor, but he determined almost to a man to carry on as long as it was at all possible. He has given of his time and his money until it hurt. He has had some appreciated help from the government altho it was very meager. The fight is not over. This is the day of application of known medical truths. Eternal vigilance in application is the order. The greatest man is the man who serves most, who does the greatest amount against the odds. Poverty is increasing disease. The cries of the suffering will be still heavier for the next six months or year perhaps. But our opportunities are great. Unselfish service must be rewarded. Do not forget this. The Divine law demands it. Let us take courage and go forward.

You will read the brief history of Dr. E. C. Parker of Gulfport in this issue of the journal. We are sorry that we were unable to get a cut to go along with it. Dr. Parker is very modest. His modesty in fact is in indirect proportion to his real ability and worth. What he is speaks so loud you do not doubt his value. He will make a good president of the Mississippi State Medical Association. He will be efficient in every respect. He is a safe leader. The Mississippi Doctor is at his disposal.

Malden, Missouri
June 14, 1934

Dr. W. H. Anderson,
Booneville, Miss.

Dear Doctor Anderson:

I feel it my duty to write you in regard to your journal, "The Mississippi Doctor".

It is more valuable to me than any other journal I receive. I have for many years attended the entire session of the Mid-South Post Graduate Assembly and get more practical and worthwhile knowledge than any where else, and your journal continues the course throughout the year.

You deserve the confidence and cooperation of every doctor in the territory. I was talking with Mr. Swear, a vice president of the Parke, Davis & Company and asked him why he overlooked the advertising in your journal, as I felt it would mean a lot to his company and he told me to ask you to take it up with the advertising department for next year as all contracts had been let for this year. I would like to see you get a contract with them.

Yours truly,
S. E. MITCHELL, M.D.

NOTE: Thanks, Dr. Mitchell. We appreciate this letter very much. Editor.

Their Heart and Our Problems

WILLIAM CALVERT CHANEY
M.D.; M. S. in Med.; F.A.C.P.
Memphis, Tenn.

This will not include a consideration of those patients who call us at meal times and at midnight. That will be discussed under the subject of "Our Heart and Their Problems."

The "Captain of the Men of Death" is no longer tuberculosis, but heart disease. In New York City heart disease produces nearly three times as many deaths as tuberculosis and over twice as many as cancer. In that city one-fifth of all deaths is due to diseases of the heart. Heart disease leads the list with pneumonia second, cancer third and tuberculosis fourth.

There are three common types of chronic heart disease: rheumatic, syphilitic and arteriosclerotic. If put on a basis of percentage, arteriosclerosis produces 45 percent, rheumatic carditis 35 percent, syphilis 10 percent, all other diseases 10 percent.

The wonder of the heart isn't that it stops breathing, but that it continues to beat, oftentimes under very unfavorable circumstances, for so many years. There is nothing in nature that comes so near to perfection as the heart. Its automatic system, its resistance to fatigue, its enormous reserve, are all too great for human comprehension.

The most widely accepted cause of old age is arteriosclerosis. If a man wishes to live to a very ripe old age, he must make his plans before he is born in order that he may inherit an excellent system of tubing. With this good start in life, arteriosclerosis comes on proportionately to the years of wear and tear produced by the circulation. Very insidiously this thickening process of the blood vessels cuts down on the nourishment of all the vital organs of the body and degenerative processes develop. Not only, therefore, is a man as old as his arteries, but his heart, his liver, his kidneys and his brain are likewise as old as their arteries. Advanced arteriosclerosis of the brain leads to senile dementia, arteriosclerosis of the lungs: emphysema, arteriosclerosis of the heart: angina pectoris, coronary sclerosis and chronic myocardial degeneration.

At the present time the most logical interpretation of the effect of benign hypertension is that by reason of the constantly increased pressure in the cardiovascular system, the processes of wear are speeded up, and so arteriosclerosis and degeneration come on sooner.

Benign hypertension and angina pectoris are unknown in China and India. With this thought in mind hypertension and angina pectoris might well be defined as the results of an attempt on the part of nature to adjust itself to the speed of modern civil-

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ization.

Rheumatic heart disease is one of the greatest problems that challenges the Medical Profession today because the disease attacks youth. Rheumatic fever and chorea should be regarded as systemic diseases in which the heart is usually, if not always, involved.

The two commonest symptoms of cardiovascular syphilis are dyspnea and chest pains, and in this disease the aorta is the most vulnerable spot in the heart. Aortic regurgitation, appearing after the age of forty, is nearly always the result of syphilis, even if the Wassermann test is negative. The first sign of syphilitic aortitis is a tambour-like second sound over the aortic area. Oftentimes the diagnosis is suggested by a widening of the aortic shadow in the X-ray. The best treatment of this form of aortitis is the prevention of it by the thorough treatment of early syphilis.

The treatment of chronic cardiovascular disease is not curative, but an attempt to improve the circulation through medication and adaptation of the individual to the reserve still remaining in the heart.

Drugs should be used for three purposes: (1) To promote the blood flow by increasing the caliber of the coronary vessels (Theobromine and Nitrites) (2) To increase the efficiency of the myocardium (Digitalis) (3) To promote rest. (Morphine, Chloral, Bromides).

The occupation of the patient should be modified to suit the physical limitations. Moderate exercise may be permitted so long as it does not produce fatigue, breathlessness, edema or pain. Don't scare the patient into an untimely death.

When high blood pressure is to be dealt with, it should be remembered that a marked lowering of blood pressure by artificial means is not always desirable. The elevated blood pressure may be a compensatory mechanism.

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Internal Medicine and General Diagnosis

Diverticulosis and Diverticulitis*

J. M. H. FINNEY, M.D.

Baltimore, Md.

My interest in the subject of "Diverticulitis" has recently been aroused anew by a quite remarkable combination of circumstances. In rather quick succession, I have been consulted by five medical men, among whom were three of my colleagues and personal friends, who had fallen victims to this disorder. All were instances of diverticulitis of the sigmoid, and each one illustrated a different type of complication incident to the disease, which emphasizes anew the oft quoted dictum, that if anything unusual is going to happen, it will likely occur in the person of a doctor or a member of his immediate family. The first of these medical men to consult me did so only after a fistulous communication had been established between the diverticulum and the urinary bladder, and fecal matter and gas, along with urine, were constantly being discharged through the urethra. This troublesome condition I was able to relieve temporarily by operation. But, after some months, the fistulous communication again reestablished itself, notwithstanding the fact that at operation, after first separating the two viscera, I had carefully closed by suture the openings in bladder and intestine respectively, and had reinforced each by the interposition of a fold of omentum. The offer of a further attempt at closure was declined, and the fistula remained open as long as the patient lived, a matter of several years, during which period he enjoyed otherwise good health and continued to attend to his practice without any evidence of ascending infection of the kidney.

The second case developed malignant disease in his diverticulum which, at the time I first saw him, had progressed so far that all that could be done was to make a colostomy in order to relieve the attendant obstruction.

The third case developed a perforation with abscess formation and peritonitis, from which he died.

Of the two remaining cases, one was on the point of seeking surgical relief from a troublesome mass in the left iliac fossa, which, from clinical and X-Ray manifestations had been diagnosed as diverticulitis, when he was killed in an automobile accident. The last has multiple diverticula of the colon, as shown by the X-Ray, but without clinical manifestations of sufficient severity to warrant surgical interference.

A diverticulum may be defined as "any protrusion of the intestinal wall, not neoplastic in character, which has, or at some time has had lumen continuous with the intestinal canal, and whose walls are composed of structures similar to those found in the normal intestine. When the protrusion includes the entire thickness of the intestinal wall, it is designated as a true diverticulum. When one or more of the intestinal coats are absent, it is known as a false diverticulum." (Hartwell and Cecil). It should be noted, however, that this distinction is not always strictly

*Read before the Mid-South Post Graduate Medical Assembly, Memphis, Tenn., February 14, 1934.

observed in the literature.

Diverticula may still further be differentiated as congenital and acquired, unless we consider the appendix vermiformis in this light. Probably a large majority of diverticula fall into the acquired class. This latter class may be sub-divided etiologically into pulsion or traction types, depending upon the direction in which the contributing force is applied, that is, whether it is by a pull on an adhesion to a neighboring structure, or by a push due to pressure exerted from within the lumen of the bowel.

Any portion of the gastro-intestinal canal in which multiple diverticula can be demonstrated, may be said to present the condition known as diverticulosis. Diverticula may, in fact, usually do occur multiple, and sometimes in enormous numbers and in varying sizes. I have recently operated upon a case in which it was estimated that there were at least two hundred present in a segment of the sigmoid flexure, approximately sixteen inches long. When a diverticulum becomes the seat of an inflammatory process, either acute or chronic, we have to do with a diverticulitis.

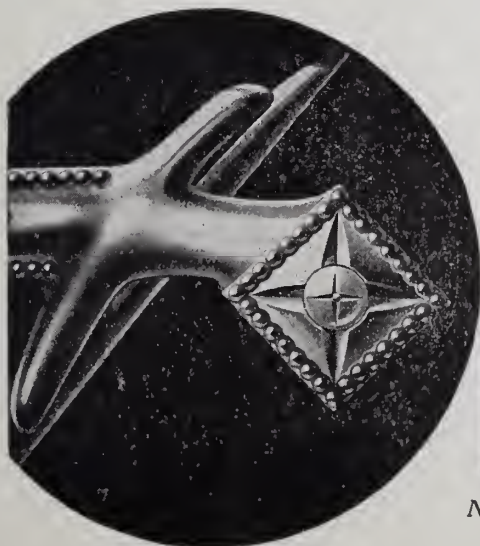
Diverticulosis of the intestine has been recognized as a clinical entity for over two centuries. Littré in 1700, first accurately described the condition. In 1710, Chomel reported finding at autopsy what he described as pouches in the walls of the duodenum. In 1809, Meckel described the anatomy of the particular diverticulum of the ileum, which since, then has borne his name. Following this, Fleishman, Cruveilhier, Rayer, Cazin, Virchow, Galton, Rokitsky, Chauffard, Rotch, Fitz and many others have, from time to time, contributed to our present knowledge concerning the anatomy, etiology and pathology of diverticula in general. In 1885, Kramer added to our

knowledge of the subject by reporting two cases of what we now recognize as typical diverticulitis. From that time on, medical literature contains a constantly increasing number of case reports and discussions of the subject. In recent years, the contributions of Moynihan describing the mimicry of cancer, as he styles it, by diverticulitis of the colon, and those from the Mayo Clinic and other communications from Telling, Case and others are perhaps among the most important.

Much of what has been written deals with a consideration of the very important question of the etiology of the condition. In the case of congenital diverticula, of course, little difficulty is presented, since obviously a faulty development in the embryo may be blamed for their origin. Certain authors seek to classify all diverticula of the stomach, duodenum and jejunum under this head, basing their claims on the rather frequent occurrence of pancreatic glandular tissue in the walls of such diverticula. From this fact, they argue that there has been some abnormality of budding from the intestinal tube at the time of the embryonic development of the pancreas. (Glin-ski, Nauwerck, Bromann, Weichselbaum, Konjetzki, Falconer, etc.)

Concerning acquired diverticula, there has been much discussion, and a variety of causes have been assigned. Congenital weakness must, in a large number of cases, play a definite part in their development, just as it does in many inguinal herniae which, while they may not make their appearance until late in life, are primarily dependent upon an initial weakness in the local structures, which in turn has been gradually developed by muscular activity and the strains incident to adult life into a diverticulum or hernia,

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as the case may be.

Another group contends that yet other anatomical defects may play an important part. They call attention to the fact that diverticula are prone to appear in the intestinal walls at points where they are normally perforated by blood vessels, or where there is any defect in development of the different muscular coats forming the intestinal walls. Color is lent to this contention by the fact that practically all diverticula which have been reported as occurring in the small intestine, other than the congenital Meckel's type, have been observed to occur along the mesenteric attachment of the bowel, and frequently just where a blood vessel had perforated the muscular coats of the bowel wall. (Klebs, Herschell, Roth, Fischer, Graser, etc.). The further fact is also noted that in the case of diverticula of the stomach, they occur usually at the cardiac end, where the longitudinal fibres from the esophagus spread out into a fan-like arrangement over the fundus of the stomach, leaving a potential structural weakness along its lesser curvature.

Still other authors lay emphasis upon what may be termed a "pathological weakness," that is, erosion of a portion of the bowel wall by ulcer formation resulting from trauma or infection, or abnormal deposits of fat, giving rise to weakening of the muscle fibres at these points. This is most strikingly illustrated in the case of sigmoidal diverticula and their close relationship to epiploic fat deposits. (Bland-Sutton, McGrath).

Again some observers attribute the pouching of the intestinal wall to forces acting from outside the viscus, thus giving rise to the so-called "traction diverticulum." This pull may be exerted through normal anatomical structures, e.g., the so-called suspensory ligaments or peritoneal folds holding the bowel in place, or by acquired adhesion bands, which tend to fix the intestine in awkward or unnatural positions, thus rendering its walls less resistant to strain from any source. Opposed to this idea are those who explain the pouching by pressure from within, the so-called "pulsion diverticulum." Here, a weak spot in the intestinal wall is made to bulge by the excessive pressure from within the viscus, for example, that exerted in straining at stool, due to constipation, in obstruction to urination, from urethral stricture or enlarged prostate; from coughing, etc., or in a segment of bowel above a chronic obstruction from any cause. (Mummery, Turner, Schlesinger, etc.).

Attention is further directed to the fact that the majority of intestinal diverticula are encountered in individuals past the prime of life, or in those who have been suffering from some chronic wasting disease, where it is fair to assume that they are probably due, in large measure, to a general atony of the intestinal walls with consequent inability to withstand even normal strains.

Finally, there are to be found in the literature examples of diverticula whose origin cannot be satisfactorily explained in any of the ways above enumerated.

The incidence of diverticula as regards various divisions of the gastro-intestinal tract is generally stated to be as follows: "they are rarest in the stomach, and then, in order of increasing frequency, duodenum, jejunum, pharynx, esophagus, ileum and col-

on. Generally speaking, it may be stated that diverticula are found more often as one descends the intestinal canal." Moreau and Murdech (quoted from Heidecker) believe that the jejunum is rarely the site of diverticula, having found only 42 cases reported in the literature. Reinhardt recently reported only three cases in 5,000 autopsies.

The records of a total of 13,068 autopsies from four large clinics, as quoted by Drueck, reveals the presence of Meckel's Diverticulum 39 times; diverticulum of the small intestine, the exact site unspecified, 16 times; diverticulum of the large intestine 28 times. On the other hand, some figures show a much greater relative frequency than this. Graser reported 10 cases in 28 autopsies; Sudsuki 15 in 40 autopsies. Baldwin found 14 diverticula of the duodenum in a systematic search of 104 cadavers in the Cornell Medical School. Kelnack reported 13 diverticula in 1,446 subjects. Doepfner one for each 138 individuals. The Society of Anatomy of Great Britain records 2 per hundred individuals, 2%. Forgue and Riche report 1 diverticulum for each 70 subjects. From a study of these figures, we see at once that there is a wide divergence among different observers as to the relative frequency of occurrence, due, in all probability, to the varying degrees of thoroughness of the search made for them by the different observers. The greater number of these examinations were made either in the autopsy-room, very shortly after death, or on the embalmed cadaver in the dissecting-room, and not on living subjects. It may be that such conditions would alter materially the findings.

A fairly thorough survey of the literature indicates that diverticula have been found to occur anywhere in the intestinal canal, from the pharynx to the anal ring. No portion of the gastro-intestinal canal is immune. By far the greater number, however, are found in the large bowel, and particularly in the descending portion extending from the splenic flexure to the recto-sigmoid juncture.

Some observers claim that diverticula, other than Meckel's, are more often found in male adults, in the ratio of from 2-1 to 7-1, as stated by various authors. However, other observers assert that there is little difference between the sexes. They manifest themselves with greatest frequency past middle life, in the seventh and eighth decades. Reports of a few cases in children of different ages are met with in the literature, but are comparatively rare. The youngest to come to our attention is listed as occurring in the third year. When it does occur early, it seems to occur with relatively greater frequency in the first decade. (Hartwell, and Cecil, Ashurst, etc.).

The question as to just how frequently diverticulitis occurs in the course of diverticulosis is, for obvious reasons, rather difficult to determine, but, generally speaking, there is good reason to believe that it is of relatively rare occurrence. Telling, however, cites 105 cases of known diverticula, 60% of which were attended by evidences of inflammation.

The pathology of diverticulitis is much the same as that of similar inflammatory processes occurring in any hollow viscus. We have to start with a bottle-shaped sac or tube, blind at one end and communicating at the other with the lumen of the bowel, or previously having done so, by a larger or smaller opening. Its walls are composed of essentially the same

structural layers as the particular segment of the bowel from which it arises. The steps of development of an inflammation, either acute or chronic, are usually as follows, a small portion of fecal matter enters the diverticulum through its ostium, if it remains any time, becomes inspissated and forms a fecalith, and, by its continued presence, irritates the lining mucous membrane. In the acute cases, owing to the constant presence of pyogenic bacteria, in the lumen of the bowel, there follows inflammation, local oedema with swelling, ulceration and possibly perforation. If, however the process becomes chronic, the formation of fibrous tissue takes place, which, as it contracts, as it is prone to do, brings about a narrowing of the lumen of the diverticulum. As the inflammation progresses, it involves the sub-mucous and muscular coats, and finally the over-lying peritoneum. It may still further progress, giving rise to a condition of peri- or para-diverticulitis, with the formation of adhesions to surrounding structures. If the condition continues unabated, a local necrosis of the mucous lining, with gangrene of the walls of the diverticulum may occur. As the peri-diverticulitis progresses, forming, as it advances, adhesions to surrounding structures, we may expect one of several complications to happen, depending upon the conditions present in the individual case, (1) perforation into an adjacent adherent hollow viscus, such as the bladder or a loop of bowel, or through the abdominal wall upon the surface of the body; (2) localized abscess formation walled off by protective adhesions; (3) if there has not been a peri-diverticulitis of sufficient extent to cause local adhesions, perforation may occur into the free peritoneal cavity, followed by a generalized peritonitis, but this is rare, owing to the marked tendency to the production of adhesive formation; (4) if the inflammation is not of sufficient intensity to cause local necrosis, gangrene or perforation, but, instead, gradually subsides with the formation of a certain amount of fibrous tissue, a recurrence of the process may be expected at intervals, with the accumulation of more and more fibrous tissue, until not only the walls of the diverticulum, but those of the adjacent bowel become greatly infiltrated, thickened and distorted, giving rise to a palpable tumormass, which may be mistaken for a neoplasm; (5) this condition may progress to the point where the segment of bowel involved becomes rigid and functionless, so far as peristaltic movements are concerned, and we have the condition commonly known as "lead pipe" bowel; (6) when this process has reached a certain degree of intensity, it may give rise to partial or complete obstruction of the lumen of the bowel. This complication may completely over-shadow in severity and importance the original condition; (7) a further serious possibility is always to be borne in mind, namely, malignant degeneration of the chronically irritated and inflamed diverticulum. While this eventuality is generally believed to be of comparatively infrequent occurrence, it happens with sufficient frequency to make it always a factor to be reckoned with.

Diverticulosis, as such, presents few, if any, symptoms. Its presence is usually revealed only incidentally in the course of X-Ray examination for some other condition. The chief cause giving rise to symptoms is purely accidental and consists in the reten-

tion in the sac, of fecal material with its attendant train of pathological changes already referred to.

Obviously, the symptomatology of diverticulitis is wide and varied, due not only to the fact that it may involve any portion of the gastro-intestinal tract, but is dependent also upon the degree and extent of the local pathology.

It may, however, well be questioned whether, strictly speaking, we can use the terms "oesophageal," "gastric" or "duodenal" diverticulitis, in view of the fact that symptoms from diverticula occurring in these regions are so frequently caused by over-distension of the diverticulum rather than by inflammation of its walls, although occasional cases have been reported.

Since this condition in the esophagus is so rarely attended by any noticeable degree of infection, it must be regarded as a diverticulosis rather than a diverticulitis. The same statement applies to the gastric and duodenal diverticula reported in the literature, all of which, with rare exceptions, give rise to symptoms only when the stomach is well filled with food.

As regards the diverticula affecting the small and large intestines, the signs and symptoms to which they give rise may range from those of a very mild peritoneal or bowel irritation to those of a most acute generalized peritonitis, intestinal perforation or obstruction. Not infrequently, however, the diverticula give rise to few or no symptoms, and their presence

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may remain for a long time unsuspected.

The clinical picture of diverticulitis, as has already been intimated, varies greatly with the location and intensity of the condition. Frequently all that the patient complains of is mild digestive disturbance, vague abdominal discomfort, irregularities in the bowel movements, slight tenderness over the abdomen, located more often over the left lower quadrant and with possibly an ill-defined mass on deep palpation. Some one or more of these symptoms usually usher in the onset of the trouble. The most characteristic feature of the early stages is perhaps this very indefiniteness. Later on, however, as the pathological process advances, these symptoms increase in intensity and others develop, such as pain, obstruction, tumor, etc., until it becomes quite evident that there is present a definite surgical entity that may at times require diagnostic acumen and surgical skill of a high order with which successfully to cope.

The treatment varies widely, according to the individual case, as well as to the training and point of view of the medical man in charge. There are in general two principal methods which may be followed, on the one hand, medical treatment, largely expectant or symptomatic, and, on the other hand, some kind of surgical intervention. The character of the medical treatment may be most varied. Its primary purpose is to put the affected segment of the intestinal tract at rest and to allay irritation, in so far as this may be possible. This usually involves continued irrigations, and a bland and greatly reduced diet, with the administration of some substance, such as mineral oil, to produce soft non-irritating stools and promote easy and thorough evacuation. Colostomy, preliminary to either medical or surgical treatment, is often of great advantage. If surgical measures are resorted to, there is a wide field of choice, dependent upon the individual case. Lack of time will permit of but a bare mention of some of the different methods at the disposal of the surgeon, such as invagination or excision of the diverticulum; reinforcement of its walls and protection of surrounding structures by wrapping omentum about the affected part; colostomy or entero-enterostomy to relieve the irritation due to the constant presence of the bowel contents; drainage of a peritoneal abscess; resection of the portion of bowel affected, with re-establishment of its continuity in some one of a variety of ways, or, as a last resort, permanent colostomy. Any of these procedures may, at one time or another, be indicated. One should here, as elsewhere, be governed by the local conditions as found at the time of operation, in short, exercise good surgical judgment, a *sine quae non* in any surgical procedure, and nowhere more imperatively needed than just here.

In considering the prognosis, much depends upon the conditions present in the individual case, but, generally speaking, it may be said to be good. Many cases exhibiting chronic mild symptomatology may be completely relieved and carried along indefinitely by following a properly regulated medical regimen. The results obtained by the various surgical procedures employed are, judging from the reported cases, on the whole, fairly satisfactory.

Let us devote the remainder of our time to a more detailed consideration of diverticula, according to

their location in the gastro-intestinal tract. We will, therefore, take up, briefly, and in succession, the oesophagus, stomach, jejunum, ileum and large bowel.

Diverticulosis of the oesophagus was first brought to the attention of the Profession in 1816 by Sir Charles Bell. From the nature of the anatomical structures involved, pharyngo-oesophageal diverticula differ materially from those found elsewhere along the alimentary tract. They usually occur as more or less elongated pouches having their origin in the pharyngo-oesophageal wall between the superior and inferior muscles, generally on the left side of the neck. The opening from the pharynx may vary in size from a tiny pin-point orifice to one, two or more cm. in diameter. The pouch itself may also vary from 1 cm. to several cm. in length, with a diameter correspondingly great. They have been reported, although rarely, of such dimensions as to contain at least one pint when distended. The larger ones may cause symptoms of pressure upon surrounding structures, but the symptomatology is mainly dependent upon the discomfort from the distension of the sac itself, its pressure and traction on the oesophagus, rendering swallowing difficult. In exaggerated instances, it may become practically impossible for any substance, fluid or solid, to pass into the stomach. There is rarely any acute inflammation in this type of diverticulum; the trouble is largely mechanical.

Etiologically, the same factors are concerned here as are active in the production of diverticula elsewhere in the alimentary canal, namely, anatomical defects plus traction or pulsion. Histologically, similar changes are noted in the walls of the diverticula here as elsewhere.

The diagnosis is based upon the history, the passage of a bougie or esophagoscope, and is confirmed by the X-Ray. Treatment is entirely surgical.

Nicoladoni in 1876 first operated upon an oesophageal diverticulum by opening the sac, and establishing a fistula. From that time on, various operative procedures have from time to time been suggested, all of them completed the operation at one sitting, until C. H. Mayo and Goldman in 1909 introduced an improved technique in the form of the so-called two-stage method, namely, "bringing the sac out through the incision, which is usually in the left side of the neck and suturing the edges of the incision to the neck of the sac. It is left in place for from eight to ten days, when the wound is reopened, the sac removed, and the stump inverted. Sometimes the patients are fed in the interval through a Rehffuss tube."

It early became apparent that the chief danger in operations upon the oesophagus was intra-thoracic infection, which, unfortunately, was quite common after the operation when done in one stage. The avoidance of this serious complication is essential to the success of the operation. This is best done, as just indicated by making use of the two-stage method,

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whereby the operative mortality has been reduced to approximately 4%

Diverticula of the stomach are prone to occur in one of two locations, either on the lesser curvature at or near the cardia, or in the region of the pylorus. A relatively large number of them are, apparently, purely functional in character, dependent upon an active peristalsis of the stomach to demonstrate their presence. (deQuervain). There are, however, a certain number which are true diverticula. They are usually globular in shape, with a fairly large ostium in relation to the size of the pouch. They are usually single. They may rarely become involved in a secondary inflammatory process. The symptomatology is usually dependent upon an over-distension of the pouch during the period of digestion, when the stomach is in active contraction. The symptoms in general are rather vague, with no one predominating, which we might point to as characteristic of this lesion. X-Ray demonstration is the only sure method of pre-operative diagnosis. Some authors claim that diverticula of the stomach, particularly those in the pre-pyloric region, are dependent upon pre-existing peptic ulcers for their origin; that they are merely the bulging of a weakened wall, due to this ulceration. Other observers point to the fact to which attention has already been called, that histologically tissue resembling pancreatic gland may be demonstrated in the walls of these diverticula and, therefore, they are dependent upon an abnormal budding during embryonic development. Many writers warn against confusing the so-called pre-pyloric notch, which may be demonstrated fairly frequently in gas-

tro-intestinal X-Ray plates, with a true diverticulum. Practically all of the gastric diverticula have been found either at autopsy or in the dissecting-room, or during the course of an abdominal operation. Their presence may, however, be first demonstrated by means of the X-Ray.

Their operative treatment is obvious, either invagination, where such a procedure will not encroach too much upon the lumen, or excision and closure of the resulting defect. The prognosis should be uniformly good in either case.

Recent medical literature contains the record of a fairly large number of duodenal diverticula. These are found most frequently in the second or third portion of the duodenum, and rather suggest a pouching of the duodenal wall than a true diverticulum. They are frequently associated with pyloric or duodenal wall of varying sizes, whose presence had been unsuspected. Just as a gastric diverticula, their symptomatology, if any such exists, is vague and indefinite, and the diagnosis must be made either by X-Ray demonstration or by operation. Here again, there is rarely any associated inflammation of the sac, although we have found one case on record of a true diverticulitis with perforation followed by peritonitis. Duodenal diverticula are usually classed as anatomical curiosities possessed of slight surgical significance. Rarely is surgical interference required, and when it is, excision or invagination are the means to be employed. My Son, J. M. T. Finney Jr., who is associated with me, has recently operated successfully upon a case of diverticulitis of the third portion of the duodenum by excision of the sac and inversion of

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stump in a woman of fifty-three.

Diverticula of the jejunum are, apparently, very rare. There are few cases recorded in the literature. They are usually small, multiple and occur along the mesenteric margin of the bowel, frequently in conjunction with the blood vessels where they perforate the bowel wall. They may be the seat of acute inflammatory changes. (Gardinier and Sampson). As showing how rare diverticulosis of the jejunum is, Case, in his series of 6,847 personal studies, found diverticula of the jejunum in but 4 cases, one of which involved both the ileum and the jejunum. Besides this, of the total 85 cases which were cited as duodenal diverticula, 7 showed the diverticula as occurring at the duodeno-jejunal junction. In his exhaustive article reporting these cases, Case gives references to 15 other instances of diverticula of the jejunum and ileum, these being all that he could find in a careful review of the literature. Curiously enough, my son, above mentioned, who has had a very unusual experience with diverticulitis, reports another very interesting case of multiple diverticula with obstruction in a woman of seventy-three, successfully operated. There is nothing which can be given as a characteristic symptomatology for this condition other than the demonstration of its presence by X-Ray. The diverticula are usually symptomless and seldom of surgical significance.

There are very few reported cases of diverticulitis of the ileum other than Meckel's Diverticulum. The frequency of occurrence of this anomaly varies with the reports of different observers. Their figures range anywhere from one-quarter of one per cent to one per cent. Diverticula of the ileum seldom give rise to symptoms of appreciable significance. Meckel's Diverticulum, when present, usually occurs approximately 18 inches above the ileo-caecal valve. It may manifest itself merely as a small pouching of the wall of the ileum opposite the mesenteric border or as a blind pouch several inches long and with a diameter about that of the ileum. At times, the blind end may be found attached to the abdominal wall in the neighborhood of the umbilicus, or even to a loop of intestine, although usually it lies perfectly free. When it becomes inflamed, it presents a symptomatology very closely resembling that of an acute appendicitis, and not infrequently indistinguishable from it. Some authors claim that at times, at least, it is possible to make the diagnosis pre-operatively, from the fact that the pain and tenderness are more often referred to the region of the umbilicus than to McBurney's point, which is more characteristic of appendicitis. It is, however, safe to say that in a majority of cases, the diagnosis is made only at the operating-table. The Speaker well remembers that the first case operated upon by him forty odd years ago for what had been diagnosed "acute appendicitis," turned out to be an acutely inflamed and perforated Meckel's Diverticulum with abscess formation. He has seen several cases since, in none of which, owing to the similarity of the clinical pictures, was the pre-operative differential diagnosis from acute appendicitis made with certainty. Three years ago, I saw, again with my son, who operated upon him, a man aged fifty-two, with diverticulitis of the mid-portion of the ileum which had perforated, requiring resection with lateral anastomosis, from which he made a good recovery.

The large bowel, as has already been indicated, is the most common seat of diverticula, and hence the great majority of cases of diverticulitis are to be found here. Diverticula of the large intestine occur with increasing frequency as we pass from the caecum to the recto-sigmoid juncture. They may be single or multiple, usually the latter. There are cases in which many hundreds of them have been counted. The speaker has recently had under his care a gentleman upon whom he performed a preliminary colostomy for the relief of obstruction of the lower portion of the sigmoid, due to chronic plastic diverticulitis, a marked instance of the so-called "lead pipe" bowel. In a segment adjacent, approximately one foot in length, it was estimated that there were present at least 200 diverticula, varying in size from a millet seed to a hazel-nut.

The diverticula when multiple, as in this case, are usually small and ovoid, ranging in size from a few millimeters to 2 or 3 cm in diameter. Others have been described, however, as large as a hen's egg, although quite uncommon. Diverticula of the large bowel are prone to occur in conjunction with deposits of epiploic fat in the walls of the colon, or along the margins of the longitudinal bands. Authorities seem to be generally of the opinion that rarely, if ever, are there to be found true congenital diverticula of the large bowel. Spriggs states that in 1,901 consecutive autopsies studied by him, diverticula of the large bowel were demonstrated in 158 cases, 8.3%. Of these 12% showed a diverticulitis. The average age of these patients was between 57 and 58 years; 109 were males and 49 were females. The location of the diverticula in order of frequency was given as follows: pelvic colon, 116; descending colon, 76; transverse colon, 31; ascending colon, 30; the entire colon was involved in 23 cases; caecum, 7; appendix, 6; rectum, 4.

The vermiform appendix, like the rest of the intestinal canal, is occasionally found to be the subject of diverticulosis. Its peculiar anatomical structure rather predisposes these diverticula to inflammatory attacks. Various authors have estimated that diverticula are present in the appendix in the ratio of one-fourth to three-fourths of 1%. My own experience in several thousand cases of appendectomy (I have long since lost count of the exact number) does not bear out this ratio. I have very seldom met with it. When present, it constitutes an additional indication for the removal of the appendix, which, other things being equal, should be done at sight, as a prophylactic measure, if for no other reason.

The early symptomatology of diverticulitis of the large bowel varies, of course, with the location of the diverticulum. As has already been indicated, it is characteristically vague, as a rule, and may be somewhat as follows, the patient complains of some slight discomfort rather than pain; the exact location is usually somewhat indefinite; the discomfort seems to bear no relation to the ingestion of food; it is usually rather intermittent, and there will be periods of

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hours or even days, when the patient will be perfectly comfortable. Frequently, however, a heavy dragging sensation is complained of, which, at times, is referred to the back rather than to the abdomen, more especially in the lower lumbar region. There is frequent complaint of flatulence and a feeling of distension, which usually is not completely relieved when the bowels move. A certain degree of constipation and, at times, frequent or painful urination may be present. In more advanced cases, or where the inflammation is in a more acute stage, there may be general or localized abdominal tenderness and muscle spasm. If the trouble is located in the descending colon or sigmoid, not infrequently a tender sausage-shaped tumor-mass may be palpable in the lower left quadrant, low down in the iliac fossa. As the inflammatory process advances, there gradually develops a chronic partial, or more rarely an acute, complete obstruction of the intestinal canal. Hemorrhage from the bowel or microscopic blood in the stools has been observed in a few cases. There is, usually, present a mild leucocytosis, which may become quite marked in the acute stages of the inflammation, with a corresponding increase in the poly-morpho-nuclear leucocytes. If the disease process progresses to abscess formation, or a peritonitis supervenes, the added symptoms characteristic of such conditions are to be expected. By means of opaque enemata, the diverticula may frequently be demonstrated by X-Ray plates as well as through the fluoroscope. They appear as rounded, oval or crescentic shadows, very often superimposed upon a distended haustra of the intestine. Some authorities attach great importance to a series of spike or palisade-like projections from the lumen of the bowel, the walls of which are observed to be rather thickened and fixed, although vigorous contractions are to be seen elsewhere in the same bowel. (Spriggs). Several authors point to the apparent association of diverticulitis with some local infection, particularly apical alveolar abscess and arthritis changes in the spine. Spriggs states that in the last fifty-eight cases of diverticulitis in his series, 21 cases showed a very marked spondylitis, and in only 2 of these cases, where tooth roots were present, were they negative. He goes on to say that 13 of these cases had either cholecystitis or cholithiasis; six arthritis, other than spondylitis; four appendicitis; three peptic ulcer; two dysentery; two lupus; one colitis; one chronic infection of the antrum, etc., a total of 37 demonstrable infections out of 58 cases. Our experience has not altogether borne out of this observation. Undoubtedly, though, there is to be found an appreciable percentage of local infections in individuals suffering from diverticulitis, but the same is true, to a large extent, of people in general, hence it does not do to be too hasty in drawing conclusions.

The individual diverticulum, when in the inflammatory stage, usually shows an impacted fecolith or other foreign body, as a source of chronic irritation and infection. In course of time, the communicating ostium may become stenosed or even completely obliterated, thus converting the diverticulum into a closed cavity and adding materially to the danger of the condition.

Medical treatment consists in general in keeping the alimentary system, particularly the colon, functioning as normally as possible. All foci of infection

should be eliminated as potential source of trouble. The patient should be kept on a bland well regulated diet. Strong cathartics should be avoided as far as possible. Mineral oil or agar should be used when necessary to obtain proper elimination. High colonic irrigations each day are advocated by some, but care should be exercised in avoiding over-distension of the bowel for fear of rupturing the wall of a diverticulum. Others point to the usefulness of oil enemata introduced at low pressure in the prone position. Frequently a patient may be kept comfortable indefinitely, by following some such simple regimen.

The surgical indications are (a) acute, due to perforation of the diverticulum with localized abscess formations or peritonitis, intestinal obstruction, and (b) chronic, continued abdominal pain and distress, with the presence of a tender palpable mass, vesicocolic fistula, and chronic intestinal stasis resulting from so-called "lead-pipe" bowel.

The character of operation performed depends entirely upon the local conditions revealed by the exploratory incision, plus the judgment of the operator as to the surgical procedure best calculated to produce the desired result. Many types of operation have been suggested ranging from simple drainage of an abscess, or colostomy for drainage purposes, to massive resection of the segment of affected bowel. A considerable proportion of cases, if treated by conservative surgery, colostomy, for instance, in order to put the bowel at physiological rest, may be benefitted to such an extent as to allow a later closure of the colostomy. Indeed, a gratifying percentage of cases treated by the medical regimen as outlined above lead a very comfortable existence. There is, of course, the unpleasant possibility of a recurrence of the trouble at any time, since a tendency to recurrence of symptoms is quite characteristic of the disease.

Palliative procedures, in which may be classed colostomy, drainage of abscesses, invagination and reinforcement of the affected segment of bowel by omentum, etc., all have their place in selected cases. But in order to insure a permanent cure, one must consider the possibility or advisability of resecting the diverticulum-bearing segment of the bowel. Where the entire large bowel is involved, it may necessitate a formidable surgical procedure, a sub-total colectomy, fortunately a rare occurrence.

Gerzowitsch has collected 104 cases of massive resection from the literature. Of these, 54 were listed as cured; 7 died following the operation; the result in 43 cases was not reported. As is to be ex-

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pected, the operative mortality is found to be higher in the more radical types of operation. On the other hand, in those who survive operation, the assurance of a permanent cure is found to be correspondingly greater. If massive resection has been decided upon, it is a matter of importance involving good surgical judgment, whether or not it should be completed in one-stage, or whether the chances of the patient would be materially improved by a preliminary colostomy, the so-called two-stage operation. Due consideration should also be given to the possibility of re-establishing the continuity of the bowel following resection, or whether the retention of a permanent colostomy will be necessary. Anastomosis of the ascending, transverse and descending portions of the colon is relatively simple if proper mobilization can be obtained, which is usually the case. But, as most of the cases of diverticulitis involve the sigmoid, frequently as low as the recto-sigmoid juncture, the surgeon may be confronted with the necessity of performing an anastomosis deep down in the pelvis. Under such circumstances, owing to inability to approximate the two segments, suture may be found to be difficult or even impossible, in which case Mikulicz's method may prove valuable.

Pauchet reports 10 cases operated upon personally, two simple excisions, four resections of the sigmoid with permanent colostomy and four resections with subsequent anastomosis. Where the approximation of the two portions is difficult, he suggests a rather involved procedure which may, however, prove worthy of consideration in selected cases. As described by him, it is divided into three stages, (1) the establishment of a colostomy fairly well up, together with resection of the diseased segment of bowel, and invagination of the rectal end. At a second operation, two weeks later, a low loop of ileum is isolated, carefully preserving its blood supply. The continuity of the ileum is re-established by any approved method of anastomosis. The loop thus obtained is at once joined, the upper end to the transverse colon, proximal to the colostomy, and the lower end to the stump of the rectum. The third stage consists in the closure of the colostomy opening. This procedure has been employed successfully in two cases, in one of which, recently reported by Stone, it was used in a case of carcinoma of the rectosigmoid juncture.

To summarize, diverticula of the large intestine are fairly common; of the small intestine, except Meckel's, rare. They may be congenital or acquired; true or false. They may occur at any stage, but more frequently in the middle and later decades. They may give rise to few or no symptoms. A certain percentage of them, probably not large, are subject to certain pathological changes, chief of which is a chronic inflammatory process, giving rise to the condition known as "diverticulitis." The size and shape of diverticula vary from that of a pea to a hen's egg. They may be pedunculated or sessile, more frequently the latter. The opening communicating with the intestinal lumen varies in diameter, not infrequently it may become obliterated or stenosed. Diverticula, in all probability, are due primarily to a congenital weakness in the intestinal wall. Many other contributory factors, however, enter into their formation, of which, perhaps, pressure from within and traction from which are most potent. In addition,

the extension of the inflammatory process to surrounding structures, the continued irritation resulting from incarcerated concretions and gaseous distention tends to produce ulceration and subsequent perforation of the wall of the diverticulum, and also, in an appreciable percentage of cases, to the development of carcinoma. This latter tendency is well marked, especially in diverticula of the sigmoid. The percentage of carcinomatous degeneration as reported in some series of cases runs as high as 25%, but this is probably too high an estimate for the general average.

The differential diagnosis is frequently difficult, owing, on the one hand, to indefiniteness of symptoms, and, on the other, to inability often clearly to distinguish the clinical picture presented from various other pathological processes, chronic appendicitis, ulcerative colitis, tuberculosis, actinomycosis, carcinoma, etc. The X-Ray is of great aid in the diagnosis. Sigmoidoscopic examination may also be of value. The presence of diverticulitis should always be suspected in a man of middle age, if over-weight, with obscure abdominal symptoms and an indefinite mass in the mid-line, or on the left side, with some disturbance of the bowels, mild obstruction, chronic colitis, slight rise in temperature and, possibly, blood in the stools. A careful statistical study of the various affections of the intestinal tract, both acute and chronic, shows that diverticula and their complications occupy a position of real importance, which should not be overlooked.

Perforation of the inflamed diverticulum into the peritoneal cavity with localized abscess formation, or into the urinary bladder are not infrequent complications. Decision as to the special line of treatment to be followed depends largely upon the physical condition of the patient and the intensity of the symptoms. Palliative measures are worth a trial, careful attention to the bowels, proper use of laxatives, with belladonna and morphine, as indicated; liquid or soft diet, colonic irrigations, etc. Surgery is indicated where the symptoms are of sufficient severity, and palliative measures have been tried and have failed. Resection of the mass with suture of the bowel by some one of the approved methods is the ideal treatment. Not infrequently, however, owing to conditions present, this may not be practicable, in which case the method of Mikulicz has proven very satisfactory in my hands. When an abscess is present, incision and drainage are indicated.

Fistulae between the bladder and diverticula may be relieved by separation of the two viscera and suture of each with the supplemental interposition of omentum. Colostomy alone, or with lavage, is of real value, and in a gratifying percentage of cases, is followed by a symptomatic cure. In selected cases, appendicostomy with colonic lavage may be tried. In my hands, it has proven very successful where colostomy alone is indicated. I recommend it for trial as the simplest and possibly the most satisfactory method in uncomplicated cases.

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The Treatment of Diabetes and the Treatment of the Diabetic Patient

ELLIOTT P. JOSLIN, M.D.
Boston, Mass.

The treatment of diabetes is with diet, exercise and insulin, and the value and uses of these are becoming more and standardized. As for diet the carbohydrate is about 150 grams protein 80 grams and fat 90 grams more or less varying with the age, activity and weight of the patient. Without exercise the diet must be lowered and insulin increased. Thirty units of insulin constitute a liberal quantity.

But the treatment of the diabetic patient is a different matter. He must be educated to share in his own care because he is to live so long—10 years and more on the average instead of five years as a short time ago and even 20 years on the average if his diabetes begins in 1934. He must be taught that diabetic coma can be prevented just as is diphtheria and that a death from coma is as unjustifiable as a death from diphtheria. Already question are beginning to be asked when such a death occurs.

Gangrene which causes 1-4 of the diabetic deaths is also largely preventable by cleanliness, avoidance of injuries and prompt attention when they occur.

Tuberculosis has been increasing in diabetics and

is overlooked in the early stages. Each diabetic should have a yearly X-Ray of the chest and to bring the expenses within the reach of all, X-rays of the chest should be bought wholesale. We want more X-rays and so many that they can be cheap, because only by X-ray can early tuberculosis in a diabetic, or non-diabetic for that matter, be recognized.

Diabetics are under doctors' observation and therefore we should expect to get better results from the treatment of cancer in a diabetic than in a non-diabetic. It should be discovered earlier and at stages when operation is hopeful.

Upon the diabetics rest duties. A duty to himself to live a faithful diabetic life, adhere to his diet, work and to use insulin intelligently.

A duty to his family. He should not marry another diabetic and thus produce diabetic children, but should marry a non-diabetic who comes from a non-diabetic family. He should examine the urines of his relatives to detect diabetes at an early date and should seek to prevent it among his relatives by warning them not to get fat.

Finally, a diabetic's duty does not end with death. He should put into his will that an autopsy should be performed upon his body, so that doctors and diabetics alike can advance the knowledge of diabetes. An operation during life is attended with pain and for the benefit of the individual, but an operation after death is without pain and for the benefit of humanity.

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Useful Methods of Treating Fractures of the Femur

STANLEY A. HILL, M.D.
Corinth, Miss.

Selection of treatment for a closed fracture of the femur depends upon the type and part of the bone affected, the equipment available, and the patient. An oblique fracture often requires a different method from a transverse one; treatment for a broken shaft is different from fracture of the neck. If plaster and a fracture table are not available traction-suspension may of necessity be resorted to. A laborer would prefer a stiff stable joint that might result from a fracture involving the joint while a bookkeeper might want a less stable joint with motion. The treatment of fracture of the femur ranges from simple rest in bed to the heaviest of major surgery. Therefore this discussion is not intended to be exhaustive but will include some logical methods that will yield good results and give the type for which each is indicated.

EMERGENCY TREATMENT--First aid is of such great importance that it demands mention if for no other reason than for the sake of emphasis. For we still see, too often, patients with a broken thigh moved without any kind of a splint. Treatment should begin when the fracture is first seen. The Thomas splint is the best emergency appliance. Without removing the clothing or shoe a hitch made of bandage is looped about the ankle, fastened to the end of the splint and made tight with a Spanish windlass the ring having been jammed firmly against the crotch in the beginning. Cloth slings are pinned to the lateral bars so as to support the limb and bandage wrapped around the leg and bars of the splint thus making it snug and secure. This will prevent shock and overriding and will give much better results. If a Thomas splint is not available use boards. Select one long enough to reach from the axilla to the heel and another to reach from the crotch to the heel. Pad these with cotton batting and bind to the trunk and the leg. Further security may often be obtained by using a third board behind to complete the trough. Warm up the patient with blankets. Now the patient is ready for transportation to the home or hospital.

TWO OPEN OPERATIONS--Oblique fractures of the shaft due to their failure to lock in reduction often require internal fixation. The Sanderson screw, designed by E. L. Sanderson, Shreveport, Louisiana, is a metal rod 5 inches long and 3-32 inch in diameter threaded at one end with the wood screw type of threads. It has a flange hub placed at a distance from the point that corresponds to the diameter of the bone. It is peculiarly adapted to the advantage of being removable without a second operation after union results. The fragments are exposed by open operation. Reduction is held by a Lambotte clamp while drill hole just smaller than the threaded point is made through both oblique tongues. Then a handle is made by bending the blunt stem of the Sanderson screw at a right angle one inch from the end. It is now inserted into the drill hole by screwing down until the threads are firmly caught in the cortex on the opposite side of the bone and the hub is snugly

jammed against the cortex next the operator. The wound is closed around the stem allowing a portion of it to project beyond the skin. If the operative wound does not allow the proper position of the screw (the screw must be at a right angle to the plane of the fracture) a stab wound is made and the screw inserted through this. The projecting handle of the screw is incorporated in and covered by the plaster splint which must be applied. A window may be made in the plaster to remove the skin stitches and then reapplied by a new plaster bandage. After enough callus formation to hold the union has been produced, usually in three to four weeks, the screw is removed. On removal just enough blood oozes from the bone to clot and seal off the tract left by the screw. Trial has proven that there is no objection to having the blunt end of the screw project from the operative wound during convalescence. The plaster-of-Paris splint is removed at the end of eight weeks and not at the time the screw is taken out.

In cases of transverse and some comminuted fractures of the shaft where reduction or length cannot be held by closed methods the Lane plate will give good results. A six hole vanadium steel plate is required for the femur. The operation must be mechanically perfect to give good results. A screw with 32 threads to the inch and 9/64 inch in diameter is used. The drill used is 6/64 inch in diameter and is commonly known as the Brown-Sharp 32 standard drill. The screw therefore is 3/64 of an inch larger than the drill which allows the screw to cut its own threads in the bone. The screws used for the end holes are long enough to transfix both cortices. Short screws just long enough to pierce the cortex next the plate are selected for the remaining four holes. The drill holes and screws must correspond so that the plate will be tight when applied. A loose plate invites infection and rarely will hold the reduction. Non-touch technic and a well trained team are required. A plaster spica is always necessary in addition to the internal fixation. This procedure has the disadvantage of being a heavy cutting operation attendant with a good deal of shock. Some time is lost due both to the delay in waiting for the swelling to subside, the temperature and pulse to return to normal before operating, and to the slower union that follows operative insult. However, Sherman reports 1600 operations with satisfactory results. Open reduction should be carried out when indicated but not employed as a routine measure.

A NEW METHOD OF SKELETAL TRACTION--The Roger Anderson Skeletal Traction Splint will give excellent results for central or intracapsular fractures of the neck of the femur. This apparatus makes use of the well leg as a fulcrum against which traction by leverage is secured. The apparatus is made of aluminum and consists of two stirrups which are incorporated in plaster on the two legs and are held together by the lever bar, leverage on which is

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controlled by a thumb screw at the side of the well leg. Extra heavy padding is placed at the foot of the well leg and the plaster which extends to the upper thigh on this side is cut out over the bony prominences. These precautions are necessary because pressure resulting from the leverage is brought against the well foot. Skeletal traction is obtained by a Steinman pin which is passed through the stirrup and the tibia just above the ankle on the injured side. A special key-handle is made for the pin and it can be bored through the bone using 2 percent Novocain local anesthesia without pain to the patient. The attachment to the stirrup on the injured side is fitted with a swivel joint which may be made secure by a thumb screw when the proper rotation is obtained. The plaster on the injured side stops just below the knee and that on the well leg at the upper thigh. Thus with no appliance around the hips and pelvis and no attachment to the bed the patient can assume the sitting position and be rolled around in the wheel chair. Therefore this is favorable to the aged patient which is so likely to succumb to hypostatic pneumonia in the Whitman spica. The disadvantages are the cost, about \$40.00, and the fact that the feet are hobbled.

This splint gives good reductions of intertrochanteric fractures. In this case the foot is rotated out rather than in as is done for fracture of the neck. This apparatus can be employed for fractures of the shaft by running the plaster up on the thigh of the injured side. It may also be used for T-shaped fractures of the condyles.

MANIPULATION AND IMMOBILIZATION IN

THE PLASTER-OF-PARIS SPLINT—Campbell's technique for immediate reduction gives excellent results, especially in children, for transverse fractures of the shaft. This procedure consists of manipulative reduction with the patient on the fracture table, the application of a plaster spica, and fluoroscopic control. With the patient on the fracture table, the uninjured limb fixed to its foot-piece, and surgical anesthesia in force, the muscular contraction is exhausted by continuous straight pull. Then reduction is completed by manipulation. After the position is proven by the fluoroscope a plaster-of-Paris splint extending from the nipple line to the toes on the affected side and to the knee on the uninjured side is applied—the hip being flexed 150 to 130 degrees and the knee about 150 degrees. This makes a double inclined plane, a very important point. After the cast is applied the reduction is checked by an X-Ray plate. The cast is removed after six weeks in children and after eight weeks in adults. If the equipment is available, this method can to advantage be adopted as a routine, especially in children. In adults it is well to make check-up X-Ray plates after two weeks for sometimes the plaster splint allows the reduction to "slip."

A SIMPLE TRACTION-SUSPENSION APPARATUS THAT IS AVAILABLE TO ANY PRACTITIONER—Fractures of the shaft, due to the strong muscles of the thigh, are conducive to considerable displacement of the fragments resulting in shortening. These are the cases most often subjected to operative interference. No one wants an operation if good results can be obtained otherwise. The Steinman pin is awe in-

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spiring to the patient and family. Often in adults the reduction slips in the plaster spica and some stiffening of the knee may also result. Consequently, I want to discuss a method that is best used in the Hospital but can be used in the home. The apparatus need not represent an outlay of over \$2.00. This is Russell's method of traction and consists of an overhead head-to-foot bar that can be shifted laterally, an arrangement to which may be attached a couple of pulleys beyond the foot of the bed, four block-pulleys and suitable flexible cord.

When the femur is fractured shortening results because of the tonic contraction of the muscles, principally the quadriceps and the hamstrings. Tonic contraction has been explained as the physiological property of muscle which makes it act like a rubber band slightly stretched. In the thigh very large strong muscles are found, and it naturally follows that here great displacement will result following fracture.

In applying this form of traction strips of adhesive twenty-four inches long and three to six inches wide are attached to the leg as in Buck's extension. The leg is first shaved and the adhesive straps ap-

pplied to the inner and outer sides. These are made secure by circular adhesive straps reinforced by gauze bandage. The ends extending beyond the foot which must be folded and cut so as to fashion narrow straps are attached to the corresponding straps on the spreader by pinning with heavy safety pins. A block 1 inch by 3 inches by 6 inches covered with a strip of canvas, which is tacked to the block on one side and allowed to extend beyond the ends, makes a suitable spreader. This spreader is provided with a pulley. Now a towel is folded so that it makes a band six inches wide and passed under the knee. The ends are tied together with a length of strong cord that is small enough to be threaded through the small block-

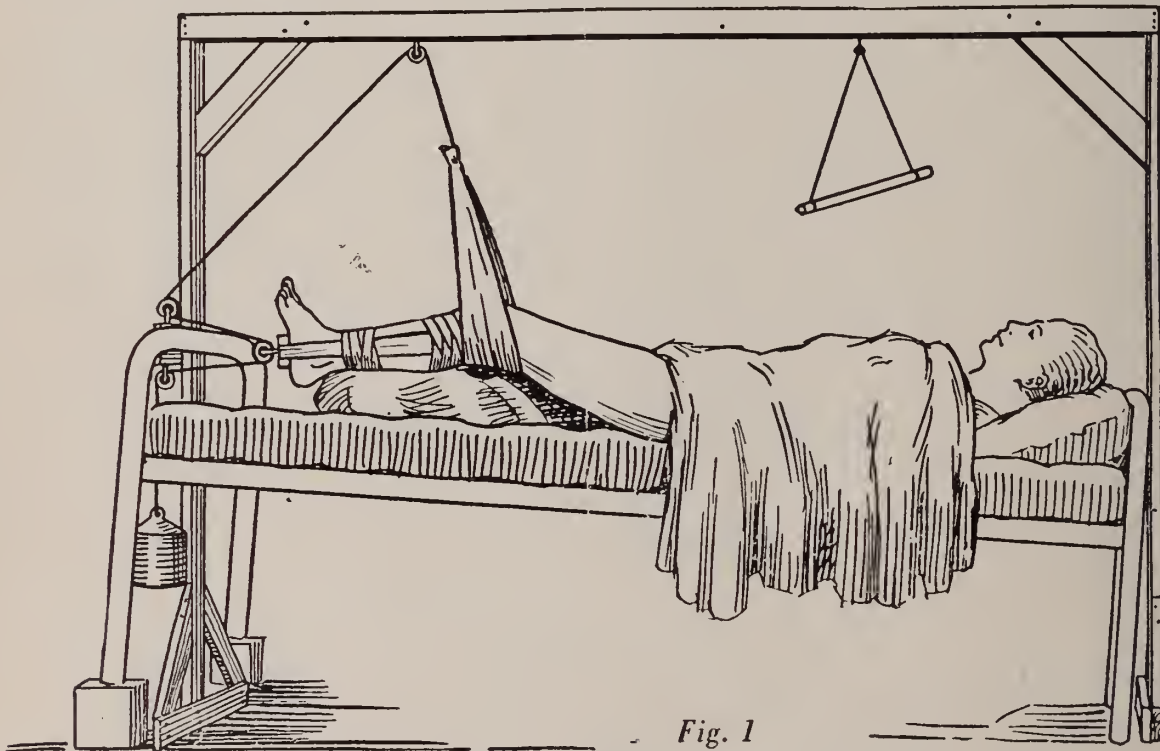


Fig. 1

plied to the inner and outer sides. These are made secure by circular adhesive straps reinforced by gauze bandage. The ends extending beyond the foot which must be folded and cut so as to fashion narrow straps are attached to the corresponding straps on the spreader by pinning with heavy safety pins. A block 1 inch by 3 inches by 6 inches covered with a strip of canvas, which is tacked to the block on one side and allowed to extend beyond the ends, makes a suitable spreader. This spreader is provided with a pulley. Now a towel is folded so that it makes a band six inches wide and passed under the knee. The ends are tied together with a length of strong cord that is small enough to be threaded through the small block-

This apparatus does the same maneuver as the surgeon when he approaches the bed to reduce a fracture of the femur. He passes one hand behind the knee, grasps and lifts it toward the ceiling while with the other hand he grasps the ankle and pulls the leg toward the foot of the bed. The apparatus pulls up at the knee and distally at the foot, the resultant of the two forces falling in line with the longitudinal axis of the thigh. This system holds the thigh and leg in the position of a double inclined plane, a time tested principle in treatment. It is comfortable because the partial flexion of the knee and hip naturally puts the muscles in the position of maximum relaxation. The continuous pull overcomes

the tonic contraction of the muscles and allows the fragments to be pulled into place restoring length and alinement. The same apparatus is applicable to fracture of the upper, middle, or lower thirds.

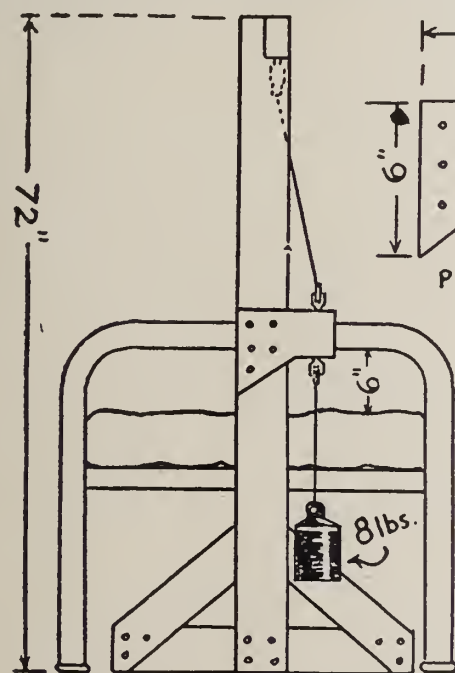
The aftercare is simple although frequent inspection is necessary. During the first two days measurements are taken to check the length of the thigh. This is done by taking the distance from the anterior superior iliac spine to the upper border of the patella. If the normal length is not restored a little more weight may be required or the direction of the pull at the foot may need adjusting. The pillow under the thigh is kept placed so as to counteract the sagging that results from gravity. Bed pan service and care of the back are easily accomplished because when the patient is lifted clear of the bed the traction is still in force and there need be no fear of displacement of the fragments.

In criticising the treatment it may be helpful to discuss the common pitfalls. If the patient is not cooperative he may allow himself to slip down in bed until the spreader rests against the foot bar thus killing the traction. It is necessary that he keep pull-

sect the leg well below the knee. Too heavy a weight, more likely if the patient is a child, may tilt the pelvis and throw the traction out of line by producing too much abduction. Interposition of muscle, periosteum, or other fibrous tissue is a true contra-indication. In this case there will be shortening with a definite recoil felt by the surgeon's hand when traction is released. An open operation must be done.

CONCLUSIONS

1. Adequate emergency treatment gives comfort to the patient and better end results. "Splint 'em where they lie." The Thomas splint affords the best method.
2. Open reduction should not be used routinely but when indicated the Sanderson screw and the Lane plate will give firm internal fixation. The Sanderson screw is peculiarly adapted to the fixation of oblique fractures.
3. The Roger Anderson splint is the treatment of choice for fractures of the neck of the femur in aged patients.
4. The manipulation and plaster spica splint



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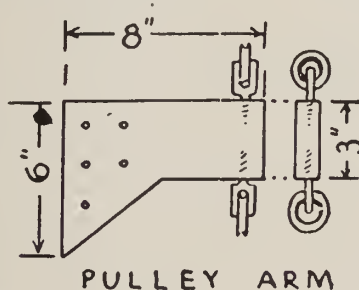
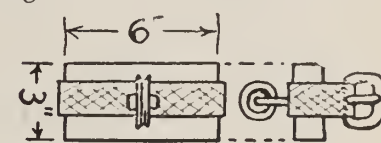
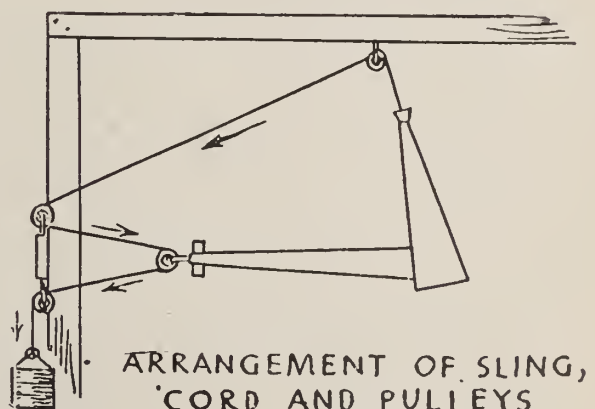


Fig. 2



SPREADER AND PULLEY



ARRANGEMENT OF SLING,
'CORD AND PULLEYS

ed up in bed so that there is several inches clearance between the foot bar and the spreader. Elevation of the foot of the bed on blocks usually obviates this but it is well to advise the patient to keep the spreader clear. If the foot is too high the weight is dissipated in pulling it down toward the bed and traction on the femur is lost. The bar on the frame beyond the foot of the bed carrying the pulleys should be lowered, and the pillows arranged so that the heel just clears the bed well. If the overhead pulley is too far toward the head of the bed the weight is dissipated in pulling toward the ceiling and traction in line with the femur is again lost. It should be placed so that a vertical dropped from it will inter-

method is best suited to children. Often the reduction "slips" in adults.

5. Russell traction is a simple and easily obtainable apparatus that will give uniformly good results in a high percentage of cases. Try it.

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(The illustrations are reproduced from Caldwell, G. A.: Tri-State Med. J. 4: 806-808, February 1932.)



Dr. V. B. Philpot, president of the Mississippi State Hospital Association. Dr. Philpot operates one of the best ordered hospitals in this state at Houston, Mississippi. He has been very active in the association from its beginning. He will make a good president. He will further the interest of the community hospital. Congratulations to Dr. Philpot and to the association.

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Mississippi State Hospital Association

Dr. W. H. Anderson, Editor
The Mississippi Doctor
Eooneville, Mississippi

Dear Doctor and Friend:

As per your request I will give you a little news from the State Hospital Association. In keeping with a resolution passed by this organization at its last meeting, an editorial writer from the Association has been appointed by me to give brief news or monthly write-ups concerning the doings of the Association and the hospitals of Mississippi. Our efficient secretary was appointed to this position, and it is probable that he will have an associate writer from the nursing profession before long. Dr. Lippincott has been ill with some eye troubles since the meeting at Natchez, but I am informed by his secretary that he is rapidly improving, and I believe by your August issue you will have monthly contributions from the editor in charge of this department.

To begin with, May I tell you that the Mississippi State Hospital Association was organized five years ago at Jackson and it was decided that the permanent meeting time should be on Monday preceeding the meeting of the State Medical Association as practically all the staffs and superintendents of the various hospitals are members of the State Medical Association. Since the organization began five years ago approximately fifty hospitals out of the sixty odd in the state of Mississippi have been listed as institutional members, and the Association has grown to be a very active organization, and many of the most prominent members of the medical and nursing profession compose its active membership.

The last meeting was held at Natchez June 7 immediately proceeding the State Medical Association. It was attended by a large delegation, and many things of great interest concerning the hospitals of Mississippi were discussed. We had with us Dr. Bert W. Caldwell, Executive Secretary, American Hospital Association, Chicago; Dr. C. Rufus Rorem, Associate Director of Medical Services, Julius Rosenwald Fund, and Consultant on Group Hospitalization, American Hospital Association, Chicago; and Mr. Paul H. Fesler, Past President, American Hospital Association, Chicago, as well as the following from adjoining states: Dr. B. C. MacLean, President Louisiana Hospital Association, and Dr. Louis J. Bristow, Vice-President Louisiana Hospital Association, New Orleans; Mr. George D. Sheats, Memphis, President Tennessee Hospital Association; and Dr. Roscoe C. Stewart, Sylacauga, President Alabama Hospital Association, on the program discussing subjects of great interest not only to hospitals of the state but to the medical profession and even to the people in general.

The banquet Monday night climaxed the session with approximately 150 in attendance, and was a very brilliant affair, and was presided over in a magnificent way by Dr. Louis J. Bristow of the Baptist Hospital, New Orleans.

My opinion is that there is a great future for the hospitals of Mississippi to render service to the people, and the State Hospital Association of this state is taking the lead in assisting the hospitals and

the medical profession in rendering this service. The Board of Directors of our Association consists of, in addition to the president, the President-Elect, Dr. H. A. Gamble, Dr. J. G. Gardner, Dr. J. R. Field, and Dr. Leon S. Lippincott, all of whom are well known to the profession of the state, and have been identified with hospitals for many years.

The Association is highly fortunate in having one of the most efficient secretaries that could be had by any organization anywhere, Dr. Leon S. Lippincott. My personal opinion is that there is no more wide awake doctor in America nor one that is more deeply interested in the welfare of organized medicine and the hospitals of the country than Dr. Lippincott. Furthermore, he is full of energy and is ever elert in every-thing worthwhile in promoting efficiency.

There are a number of outstanding problems that will require the attention of the organization during the coming year, one of which is the problem of group hospitalization or hospital insurance. Our Board of Directors has already designated the secretary to visit in other sections of the country where group hospitalization exists and to carefully ascertain the workings of this method of financing hospital service. Upon his return I shall call a meeting of the Board of Directors for the purpose of making recommendations to the hospitals in this regard. We shall, of course, go slow and careful on this new project and try as best we can to advise our institutional members as near right as we are able to ascertain. We would suggest to the hospitals of Mississippi that they wait about going into group hospitalization until we are ready to make our recommendations.

As president of the organization I shall, with the assistance of the Board of Directors, do everything possible through the medical organizations to sell Mississippi hospital service to Mississippi people. We believe that we have as good hospitals in Mississippi as are had anywhere. We recognize the fact that the time is here when it is only necessary for a very, very small percent of people in Mississippi to go outside of our own state for hospital service. With the co-operation of the medical profession we can soon take care of practically all of our own people. In so doing we believe we will save many lives and an enormous amount of money.

Hospital legislation is a thing that the Hospital and Medical Associations have cooperated thoroughly in the last two years. By only a very narrow margin we failed to put our complete program over. We did make great progress. Two years hence I believe our program in detail will be incorporated into state laws.

These subjects and many more will be dealt with I am sure by the editorial staff from our organization from time to time.

Yours very truly,

V. B. PHILPOT, President
Mississippi State Hospital Association.

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Dr. M. E. McCaskill who rendered fine service as President of the State Medical Association of Arkansas.

Dr. M. E. McCaskill was born in Summerville, Missouri. He received his grammar school education, attending High School at Eminence, Mo. He received his college and medical education at St. Louis, University, graduating from the Medical College in 1905. He had the unusual opportunity of receiving a diploma from Sir William Osler.

After graduation, Dr. McCaskill spent about three years in a hospital in interne work with the Missouri Pacific Hospital. For a period of about five years after this he was Assistant District Surgeon for the Missouri Pacific Hospital Association. In 1914 he engaged in general practice in Little Rock where he has been located up to the present time. For the past ten years he had been confining his work largely to gynecological surgery and is considered one of the leading Surgeons in this State. For the past eight years he has been Medical Referee for the Mutual Life Insurance Company of New York.

Dr. McCaskill has always been active in County and State Medical Associations and in hospital work.

He has been Chief of Staff of the General Hospital of Little Rock, and has been Chief of Staff of the Baptist State Hospital and is now a member of the Staffs of General, Baptist State and St. Vincent's Infirmary. He is at the head of the Department of Gynecology of St. Vincent's Infirmary. He has also been President of the Pulaski County Medical Society for one year.

Dr. McCaskill has been untiring in his work and enthusiasm for the State Medical Society. He has served as Chairman of the State Medical Council, and is a staunch supporter of organized medicine. He justly deserves the honor that the State Medical Society has bestowed upon him, that of President of the Association.

M. T. KILBURY.

HENRY G. RUDNER, M.D.

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Diarrheas In Infancy and Childhood With Special Reference To the Infectious Type (Dysentery) *

EDWARD CLAY MITCHELL, M.D.
Memphis, Tenn.

It is not the intent of this paper to report any original work. Its purpose is a resume of my own clinical experience on the subject of diarrhea with a short review of the literature.

Dorland defines diarrhea as a condition or symptom characterized by increased frequency and liquidity of stools. I mention this definition because I think it brings out clearly the fact that diarrhea is a symptom and not a disease. I believe it is just as rational to treat scarlet fever, measles, and other exanthemata collectively as a rash as it is to handle the subject of diarrhea in this manner. In order to have a proper understanding some classification is necessary. The one used in this paper is similar to the one published by Gertsley (1) of Chicago, with some of my own modifications.

1. Diarrheas due to food:

- (a) Improper milk mixtures, overfeeding, underfeeding in amount, as well as both the qualitative and quantitative types.
- (b) Spoiled food, especially in older children.

*Read before the Northeast Mississippi Thirteen Counties Medical Society, second quarterly meeting, June 19, 1934, at Greenwood Springs, Miss.

2. Parenteral Infections:

- (a) Coryza
- (b) Otitis media
- (c) Bronchitis
- (d) Cystitis
- (e) Infectious or contagious diseases.
- (f) All the other upper respiratory infections.
- (g) All other foci of infection

3. Infectious Diarrheas:

- (a) Dysentery (Bacillary)
- (b) Gas bacillus
- (c) Amebic dysentery
- (d) Typhoid
- (e) Paratyphoid
- (f) Colon group with other saprophytes which become pathogenic under certain conditions.

4. Miscellaneous Diarrheas, such as:

- (a) Those in the newborn
- (b) Those due to heat
- (c) Those of environment, nervous tension, in the home, change of nurses, etc.
- (d) Allergy

Before beginning the subject of infectious diarrhea I will discuss briefly under each heading the other types of diarrhea as given in the classification.

1. Diarrheas due to food; improper milk mixtures, overfeeding. The best method of making this particular type plain will be to give a hypothetical case history. You have all seen the fat, happy youngster who is gaining perhaps from one-half to one pound a week. He may be on the breast, or he may be on the

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bottle; but he takes whatever food given heartily. He is the pride of the neighborhood. He sleeps well at night and has no defects that are evident. After a short time he begins to show evidence of constipation. The stools become hard and chalk-like and the bowels move only with enemas. He is fretful. After a time he loses weight, and instead of being constipated at this time he has numerous thin, olive oil stools; the buttocks are red. He has a slight fever. This is a typical case of overfeeding, described by Finkelstein and characterized as too much milk. This type of case is best managed by regulating the feeding hours. If on the breast, cut down the length of nursing time. Give water before feeding. Do anything that you can to lessen the amount of milk the child is getting. If he is on artificial food, cut down the richness of the food by taking off part of the cream. This is the type of case where condensed milk offers quite a wonderful result.

The next type we might mention is the underfed child. Again we find a condition that is quite characteristic. The infant cries; gnaws at his fists, and has as high as 10 to 15 stools a day. The character of the stool is green and has no body to it, often just staining the diaper. How often have we seen this little infant purged rather than fed when feeding will clear up the diarrhea almost at once.

There may be disturbances due to equalitative feeding. As too much sugar, carbohydrates, fat; or the reverse may be true from too little of the various elements, when again we have the starvation type of stool.

The above types of disturbances, overfeeding, underfeeding, quantitative and qualitative, can often be diagnosed if the feeding history is carefully analyzed. While most of us no longer sanction scientific feeding to the extent of per cent and caloric estimation in the food preparation, we still must realize that the child requires approximately 50 calories per pound of body weight in 24 hours, or its equivalent which might be expressed in 2 ounces of cow's milk. This amount of food as a minimum is necessary for proper growth.

(b) Spoiled food requires no particular discussion other than to state that the resulting condition may be the starting point of more serious trouble if not properly handled.

2. Parenteral Infections: It has been the experience in our Memphis Clinics and private practice that possibly 85 percent of the diarrheas occurring from October until April are due to parenteral infection. Parenteral diarrheas may occur in the summer months as well

When the primary condition is easily diagnosed the condition offers but little difficulty, but sometimes the primary condition is masked and the chief symptom is diarrhea. Both the acute and chronic types of diarrhea may be attributable to parenteral infection. Especially is this true of the mastoid. Here again it might be excusable to give a case his-

tory. Baby John, age 3 years, was admitted in the summer of 1933 to the charity ward of the Baptist Memorial Hospital. This child came from the town of Osceola, Arkansas, at a time when they were having a Shiga dystentery of the severe type. This condition had been prevalent in this child's family. He was admitted with the chief complaint of 30 to 40 bloody stools a day, high fever, very toxic and markedly dehydrated. He was a very sick child. No history was obtainable as to any former trouble in the upper respiratory tract, though this was carefully gone into at the time of admission. The stool culture was made and pronounced negative. I doubted this culture and made another; the stool was again negative. The child was still not improved. The stools remained bloody and the child was still very much dehydrated, but improved somewhat as a result of blood transfusion and fluids by mouth and otherwise. On the third day there was a purulent discharge from the right ear and an x-ray picture showed both mastoids to be considerably involved, not acutely, but subacutely or chronic in nature. The mother then admitted that six months previously during the winter time the child had so-called "flu" and both ears had discharged. Diagnosis of parenteral diarrhea due to purulent infection of the mastoids was made. The mastoids were operated and considerable necrotic tissue and pus drained after from both sides. The patient began to show improvement almost immediately after the operation with no change of general treatment or character of food given. At the end of one week the child was getting a full diet. He gained nine pounds in nineteen days and was discharged home as well at that time. Of course some of this weight regained was due to fluid retention. The above case is only one of a series of this type we have had on our service.

A second case was that of a doctor's child in your own state. This child had been suffering from diarrhea about one week. She was having 15 to 18 stools daily. Her buttocks were excoriated. There was some blood and pus in the urine. Repeated cathartics, chiefly calomel, had only rendered the condition worse. Physical examination demonstrated an acute otitis media on the right side. The ear was drained. Although the child had been almost totally starved for several days, feeding was begun at once and within a week the child was given a full diet and the diarrhea had entirely disappeared.

I review these two cases to demonstrate the necessity of a thorough physical examination in every

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instance before drawing conclusions. Begin at the top of the head and go down to the feet systematically and carefully. Obtain a careful history in every instance.

It has been my experience that no matter what the other treatment, if your parenteral or focal condition is causing your trouble, the condition will not clear up until the primary infection is improved or removed.

4. Miscellaneous Diarrheas:

- (a) Those in the newborn do not require discussion.
- (b) Those due to heat. The former habit practiced by many mothers and nurses of compelling the child to wear heavy clothing, particularly the hot flannel band, during the summer months promotes heat retention. This was often the cause of lowering the resistance of the infant. This difficulty has largely been removed by allowing the child to wear only light clothing and having perfect freedom of movement.
- (c) Those due to environment, nervous tension in the home, change of nurses, etc. How often have we all seen the child who is growing, happy and well until on account of some outside condition the nurse is changed. The child immediately becomes fretful; it develops a diarrhea; there is loss of appetite. The same condition may occur to the child who has always been kept quiet. As a result of a visit from some relative the routine is disturbed. By some of the more modern authors this has been attributed to the imbalance of the sympathetic or accessory nervous system which we know has more or less intimate control over the bowel under conditions of stress.
- (d) Allergy; this phase should always be considered in the diarrheas of infancy and childhood. We have all seen the child unable to take any form of cow's milk without abdominal distress; sometimes skin eruptions, sometimes diarrhea. This may even be true on the breast milk. It has been definitely shown that the diet of the mother may clearly produce allergic symptoms in her nursing offspring. As the child grows older and other foods are added this phase has to be considered with regard to each food added especially if there is an allergic history.

Before taking up the subject in detail of infectious diarrheas, it would be in order to discuss briefly our method of diagnosing clinically the simple forms of diarrhea from the infectious types. This procedure would embrace the following points:

1. A careful history and a complete, thorough physician examination which would rule out parenteral infections, allergic conditions, and nervous diarrheas.
2. The bowels should be thoroughly evacuated of infectious or toxic material by one cathartic preferably castor oil or saline. (Calomel, we never use.)
3. The intestinal tract should be given rest from

food for a period of 12 hours; never to exceed 24 hours.

4. Weak tea, or water, or fluids of this type should be given by mouth if possible as this is the natural method. If this cannot be tolerated the fluid balance should be kept up by other methods.

5. If all of these conditions above have been complied with and there is no improvement at the end of 24 hours, the condition may be diagnosed with a fair degree of certainty not as a condition due to food, but as an infection of the intestinal tract.

6. Effort should then be made by stool and blood examination and other diagnostic methods to determine the type of infection.

ETIOLOGY OF BACILLARY DYSENTERY

The term bacillary dysentery implies the infection of the bowel with the specific bacillus which was discovered by Shiga. Relationship to the disease is proven by positive agglutination reactions with the blood of the patients. Bacillary dysentery is not caused by the bacillus of Shiga entirely but by a number of bacilli belonging to the same bacterial species. The Shiga strain is regarded as the cause of the severe form of this condition. Bacillary dysentery may manifest itself as acute, sub-acute, and chronic infections of the lower bowel. It is characterized by fever, leukocytosis, and diarrhea. Dysentery affects all ages particularly the very old and very young. It is most often seen as we approach the tropics. Duval (2) states it is of greatest severity in cities. We do not agree. Our experience has been that it occurs in those localities where sanitation is most lacking. Our most severe epidemics have occurred in levee camps where the families of the workers live in small huts, close together, with only the cesspool type of

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toilet, and the surface well, or cistern.

Dysentery occurs coincidentally with or following other infections of the intestines, especially amebiasis. The bacilli usually disappear from the stools in 2 to 3 weeks after the attack. They may, however, persist in the mucosa of the bowel much longer. This explains relapses which occur months after the primary attack. The excitant of bacillary dysentery is spread through the dejecta, included in the so-called water-borne diseases. It is spread by food and flies. The true carrier may have bacilli in the intestines for months.

PATHOLOGY

It is essentially an acute inflammatory process of the large intestine, and characterized by mucosal ulcerations and necrosis. It may extend up into the large intestine. The more severe type is focal necrosis of the solitary follicles of the large bowel mucosa. Perforations of the bowel are almost unknown. Bacillary dysentery is not a septicemia.

Bacterial infection in dysentery bacillus is associated with almost every intestinal disturbance that is accompanied by diarrhea. The most characteristic type of disease is the acute febrile form with stools containing much mucus and streaked with blood. There are all degrees of severity, from the mild to the most severe, the sub-acute and chronic. As a secondary disease it is often terminal particularly with infants suffering with an infectious form of intestinal disorder. As secondary and terminal it is second only to bronchitis and pneumonia.

The type we particularly refer to in this article is characterized by rapid onset, usually high fever, numerous stools containing much blood and mucus. The patient as a rule becomes rapidly dehydrated and the symptoms of dehydration with additional evidence of disturbed fluid balance, as acidosis or alkalosis, may overshadow the picture. Intestinal griping is a primary symptom, night evacuation, quite frequent stools, the abdomen is tender and rigid. Bladder tenesmus and polyuria may be symptoms. Effect of toxemia on the heart and the pulse has been mentioned.

Diagnosis is made by examination of culture from the fresh stool or preferably by use of the proctoscope. The bloody material is taken by sterile swab direct from the ulcer. This material if properly taken may be kept in test tubes for 24 hours and still a culture obtained. The technique used by us is as follows: The swab, or a loopful of feces, is placed in 10 c.c. of sterile saline. If feces is used, a loopful of this dilution is placed in a second tube of saline. Eosin-methylene blue plates are streaked with this suspension. The next morning the plates are examined and if any small colorless colonies are seen these are picked and transferred either to plain agar or E. M. B. plate. This pure culture is then placed on the five sugars, dextrose, mannite, maltose, saccharose, and lactose. Identification of the organism is made from its re-

action on the sugars.

A hanging drop mount is also examined for motility. In doubtful case, agglutination tests are set up with immune sera.

B. Dysenteriae	Dex-trose	Man-nite	Mal-tose	Saccha-rose	Lac-tose
Shiga	plus	minus	minus	minus	minus
Flexner	plus	plus	plus	minus	minus
"Y" Hiss. Parks	plus	plus	minus	plus	minus
Strong	plus	plus	minus	plus	minus

Plus equal acid—no gas

Minus equals no acid or gas

We have been more successful in obtaining a culture by means of the proctoscope than by attempting to obtain it from the fresh stool.

Pain is experienced by passage of proctoscope. Manson-Bahr (3) believe this is diagnostic of bacillary in contrast to amebic ulceration which is almost non-sensitive. This must be differentiated of course, particularly in the more subacute and chronic forms of amebic dysentery which is accompanied by examination of the warm stool and the finding of the ameba hystolytica.

As mentioned above the parenteral condition may sometimes closely approximate bacillary dysentery. The non-specific type of colitis especially where there is an abrasion or prolapse of the rectum with bleeding may closely approximate.

The complications usually seen are, tendency toward chronicity or recurrence; gangrenous bowel has been reported. In the epidemic form arthritis is mentioned as a symptom. We have seen this complication but rarely.

PHOPHYLACTIC TREATMENT

1. Should begin in early infancy with proper diet, sufficient vitamins; that is, the early use of cod liver oil, orange juice and early feeding, so that the resistance of the child may be kept at a high level.
2. All foods should be clean and the milk should be boiled. We should avoid as much as possible raw food particularly during the hot weather.
3. The utensils should be clean.
4. Water should be boiled or pure water assured.
5. Over-heating, as the wearing of too much clothing, using flannel bands, or any other method of holding the heat within the body should be avoided.
6. As the fight is between the organisms and the baby all that can be done is to raise the resistance of the infant or the child, and the lowering of the virulence of the organism may be considered as good prophylactic treatment.

FLUIDS

Probably the most important factor in the treatment of this type of case is the maintenance of fluid and mineral balance. As this phase is of so much importance I am enclosing a brief outline as to the choice of fluids and the best method of giving in the various conditions.

Method of administration and choice of fluids.

1. By mouth. This is nature's method and should be used in every case where sufficient can be retained. When the child will not take fluids or they are not retained by mouth, the nasal catheter may be

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used. Water, saline, glucose solution, carbonated water containing glucose or carbohydrates, as ginger ale, weak tea sweetened with saccharin or carbohydrates may all be used by mouth.

2. By rectum. This method is usually of little value because the fluids are expelled as fast as given and seem to produce only increased irritation of the lower part of the bowel.

3. By hypodermoclysis. This is a very good method where considerable fluid is being taken by mouth or other means and where only added fluid is needed. Saline, or 10 percent glucose may be used and repeated without producing any local inflammation.

4. Intraperitoneally. Saline, Hartmann's solution, or plain sterile water may be used. Glucose we never use intraperitoneally because in some instances it has produced a very severe grade of distention.

5. Intravenously. Glucose as high as 10 percent or slightly higher may be used because of its immediate oxidation. Saline, Hartmann's solution, blood transfusions may also be given with good results. In case of the failure of the kidneys to act sufficiently, we have found the intravenous use of 2 percent magnesium sulphate assists materially in re-establishing the urinary flow. This is particularly true if the blood pressure is elevated. The amount given is gauged by the blood pressure. The usual method being to place the sphygmomanometer on the opposite arm and have an assistant take the pressure while the fluid is being given. As soon as the pressure becomes normal the magnesium sulphate is stopped.

6. Continuous intravenous drip. In some of the

severe cases where diarrhea continues and other parenteral administration of physiological salts have no effect, we have found it beneficial to give continuous saline by the slow drip method. The cannula being left in place and the flow repeated intermittently. Fluids usually used by this method are saline, glucose solution and occasionally we have used 2 per cent magnesium sulphate.

Marriott (4) makes the statement that blood transfusion should not be resorted to until after the fluid balance has been well restored inasmuch as transfusions given in the presence of marked blood concentration may result in still further increase in the plasma protein content and an intensification of the phenomena of anhydremia. But after the fluid contents have been restored (by giving some of the other solutions mentioned) blood transfusion then re-establishes the plasma protein level in the recipient. Transfusion, therefore, tends to prevent the development of secondary nutritional edema. Transfusion may also furnish some bacterial antibodies, particularly in case of the *Bacillus Coli*. Transfusion of whole blood also furnishes red blood cells which are capable of functioning normally and in this way tends to prevent the development of anemia, after dehydration has been overcome. I wish to particularly emphasize the first part of the statement that blood transfusion should not be resorted to in marked dehydration.

Before leaving the discussion of the types of fluids to be used it might be well to mention some of the after-effects of dehydration; that is, the marked change in the mineral balance which sometimes

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occurs.

Acidosis would be defined as a depletion of the basic alkali reserve of the body fluids. During health we know that there is a nicety of balance between the acids and alkali in the body.

There are certain general effects of diarrhea that are of great importance. They may be listed under:

- (1) Dehydration, (2) Mineral imbalances (electrolyte), (3) Starvation:

During the diarrhea, because the blood plasma cannot supply sufficient water to circulate in the blood, the tissues are drawn on. The intercellular fluids in the body passing into the circulatory blood. When these reservoirs become exhausted dehydration of the tissues and blood plasma results. There is also loss of fluid by reason of evaporation from the skin and lungs; diminishing of blood volume results which in turn interferes with the normal function of circulation and carrying of oxygen and food substances and removal of CO₂ and other waste products. Secretion of urine also lessens and results in retention of urea and other waste material in the blood.

Factors contributing to acidosis are. (1) A greater loss of fixed base than fixed acids. (2) The inability of the kidneys to excrete enough fixed acids to maintain a normal bicarbonate concentration of blood. (3) The occasional production of organic acids due to circulatory failure or starvation.

The principal symptom of acidosis is increased respiration; in other words, an effort is being made by the lungs to compensate for the increased CO₂. An alkalosis occurs where there is a greater loss of gastric fluid, particularly in vomiting. The chief symptom is shallow, slow breathing. Again the lung is trying to compensate rather than eliminate the CO₂ in the blood. The laboratory tests show that in an acidosis CO₂ combining power of the blood is decreased. The chlorides are normal or increased. The normal being from 450 to 550 mgms. per 100 c.c. of blood. In an alkalosis CO₂ combining power is increased. The chlorides are always decreased. Fluids to be used in alkalosis are: Chlorides are indicated and may even be used intravenously in hypertonic solutions in severe cases. Hartmann's solution may be used intravenously, intraperitoneally, or by hypodermoclysis. Glucose solution may be used intravenously or by hypodermoclysis. Fluids to be used in acidosis are: Glucose solution may be used intravenously, subcutaneously; not intraperitoneally. Hartmann's solution may be used intravenously or intraperitoneally. Chlorides are not indicated as they are present in this condition in the blood stream. Marriott recommends in the severe acidosis, associated particularly with the acute dysentery, the administration of isotonic solution of sodium lactate. In the presence of a severe acidosis the usual dose of 10 c.c. of sodium lactate of a molar solution per kilogram of body weight diluted by the addition of five volumes of sterile, distilled water. A part of this, 1-3 to 1-2, is injected intravenously to restore as quickly as possible diminished blood volume, while the remainder is administered subcutaneously or intraperitoneally. (Such molar solution may be obtained already prepared in 40 c.c. ampules from Eli Lilly & Company, Indianapolis)

DIET

Again we have been following for the last year

or two the teaching by Marriott and Hartmann. (5) A preliminary starvation period is given for a limited time; usually 12 and never to exceed 48 hours. Prolonged starvation is harmful as food is as essential for this type of case where the condition is prolonged, as it is in typhoid fever. The solution known as Hartmann's Buffered Solution we have used by mouth with very good results. When this solution is cooled and sweetened with saccharin, we have used it in place of water. We have also used the same solution as a diluent in modifying various forms of the milk used.

Hartmann's Buffered Solution—

Lactic Acid U. S. P.	15 c.c.
Sodium Hydroxide 10%	20 c.c.
Water q. s.	100 c.c.

This is diluted 1 to 10 with water before being used.

After this preliminary starvation period it has been our practice to use skimmed milk, boiled five to ten minutes; one-half skimmed Dryco; skimmed lactic acid milk; or dried Protein milk.

In the selection of food the criterion has been, lowered or absent fat, sustaining proteins, and carbohydrates to the point of tolerance. Clinical observation has showed that carbohydrates in the form of Karo and Dextri Maltose particularly do very nicely even with the infants. That may be added quite early and can sometimes be increased fairly rapidly. In older children broths, with the fat skimmed off; cereals; jello; cottage cheese; sometimes fruit juices may be added early. Any amount of fat has in most of our cases produced vomiting and has shown a tendency to increase the number of stools and make them larger and more watery.

There have been other diets recommended as specific diet; namely, the so-called "apple diet" of Moro. (6) I merely mention this because it will be seen in the literature but would like to state that the methods described above have been satisfactory in our work for a number of years and we have not had to resort to any of the specific diets.

MEDICAL TREATMENT

Catharsis in the form of an initial dose of castor oil or saline may be beneficial if there appears to be a residue still in the bowel. Repeated catharsis particularly of hydrogagues can only be harmful, as the effort is being made to hold fluids in the tissues and strengthen the child. Calomel, I have never found necessary. Many of the cases I see have been so depleted by this drug as to render the prognosis exceedingly doubtful. Opium is a very useful drug in the treatment of this condition as it gives the bowels rest. Our method is to determine the physiological dose of opium for the individual patient and repeat this every five or six stools. In this manner the patient regulates in a way his own dosage. The use of antiseptics as animal charcoal, bismuth, salol, etc., I have not found of any great benefit. As an enema

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I find strong tea may give temporary relief from straining. The starch and laudanum and other enemas of this type have not proven beneficial.

SPECIFIC TREATMENT

For the acute type we have used in our clinics and private work dysentery serum of various types over a period of years. While we were using this serum we attempted to estimate its value by injections of plain horse serum in each alternate case as a control. Our results did not show that the specific type of serum was any more beneficial than the plain horse serum. Because of the number and severity of anaphylactic reactions we have discarded entirely the use of serum. Blood transfusions seem to be as beneficial without producing the severe reactions. Bacteriophage has been recommended but I believe has been largely discontinued. We have not used autogenous vaccines for this purpose but intend to give this method a trial.

The last two years we have been using experimentally Sodium Thiocyanate (Rhodonate) intravenously during the attack, and by mouth to contacts for prophylaxis. It appears to be beneficial in the treatment when given within the first 18 hours. There perhaps may be some benefit when Sodium Thiocyanate is given in the late case for the prevention of relapses. This drug can be given by mouth in the form of salt in the proportion of 1-3 of a grain per kilogram body weight to contacts appearing to be of benefit in prophylaxis. There is an article in pro-

gress of publication and more cannot be said about the use of thiocyanate at this time. This drug will be supplied to the Mississippi State Board of Health with instructions for its use both orally and intravenously.

SUMMARY

1. Diarrhea is a symptom and not a disease.
2. One should determine if possible the cause of diarrhea and treat for this condition.
3. Diarrhea can be prevented to a large extent by recognizing that a large number of diarrheas are secondary to infection elsewhere in the body and by proper treatment of the primary condition.
4. Diarrhea can also be prevented by proper and early supervision of the factors that influence the growth and nutrition, as the early use of vitamins, early feeding, proper regulation of habits and clothing, so that nutrition does not suffer.
5. Probably the most important factor in the treatment of severe diarrhea is the prevention of dehydration and its accompanying defects, and second most important factor is the diet.
6. Mortality in diarrheas in the south is being lessened from year to year as more time and study is devoted to its prevention and treatment.
7. Would like to repeat: A diarrhea can be diagnosed as a rule and treated as an individual condition. It is just as rational to call scarlet fever a rash,

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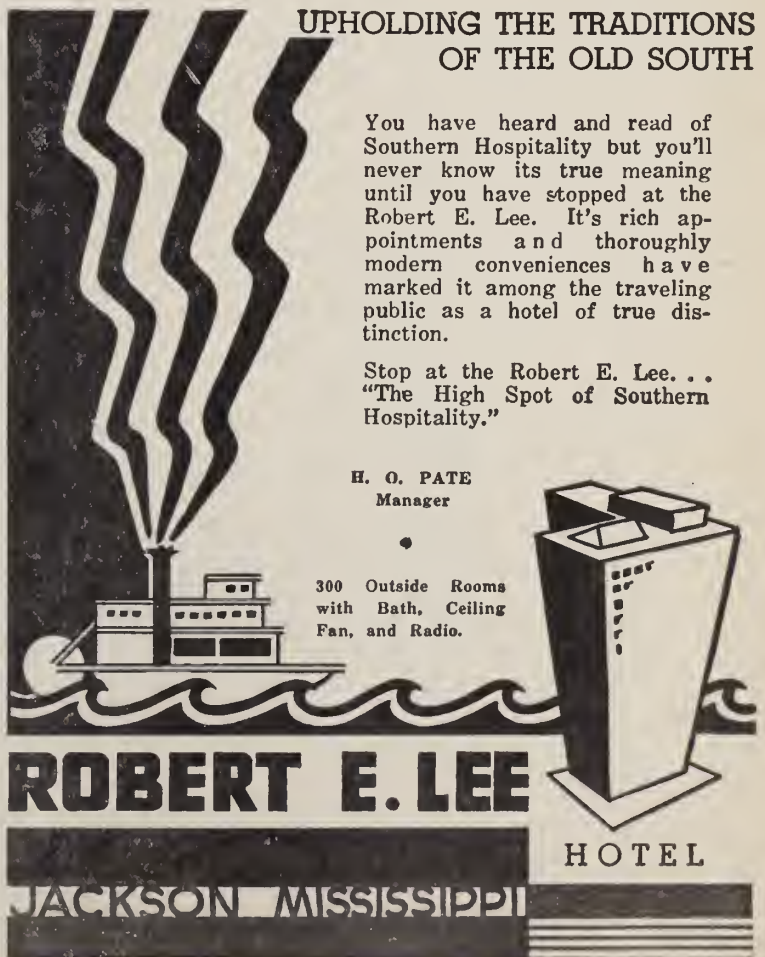
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New Graduates' Guests of Alcorn Society

Recent graduates who are visiting their parents in Corinth before beginning internships were special guests at the Alcorn Medical Society which met at 8 p. m., June 21, at the Waldron Hotel. The guests present were Frank Davis, M.D., Vanderbilt University, '34; Richard B. Warriner Jr., M.D., Emory University, '33; Robert H. Williams, M.D., Johns Hopkins University, '34; H. Davis Chipps, M.D., University of Louisville, '34; Leroy Brackstone, M.D., University of Tennessee, '34; and Sam Stephenson, junior student at the University of Tennessee, College of Medicine. Dr. Davis will begin his internship at the Cleveland City Hospital July 1; Dr. Chipps goes to T. C. I. Hospital, Fairfield, Ala.; and Dr. Warriner, who has completed a general internship at Crawford W. Long Memorial Hospital, Atlanta, will begin an advanced internship at Grady Hospital. Dr. Williams will report to the Boston City Hospital for a fellowship in Pathology; Dr. Brackstone will not begin his internship at present; and Sam Stephenson will resume his studies at the University of Tennessee the middle of July.

Following a delicious dinner the Society was called to order and welcome extended to the newly made doctors by the president, Dr. J. R. Hill. Dr. R. E. Honnoll opened the scientific program by presenting a report of a case of malaria. He introduced the case report by giving general observations on malaria control in this county. Morbidity reports showed that four to twenty cases of malaria were present during the winter months. Dr. A. D. Hurt read a very interesting paper on *Trichomonas Vaginalis*. Both subjects were freely discussed. Six visitors and ten regular members were present. The meeting was adjourned at 10 p. m.

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Tularemia

DR. IRA B. SEALE
Holly Springs, Miss.

This subject was not chosen for my paper because of any vast amount of experience I have had with the disease; in fact, my experience with it has been limited to a very few cases, and in these few cases the diagnosis has been made from clinical picture and not verified by any laboratory findings.

If, by reviewing the literature and compiling some important features of the disease to present to this body, I can help the doctors of this section to become Tularemia conscious, then my effort will not be in vain.

In view of the fact that only 15 cases in man had been reported 5 years ago, and over 800 cases have been reported since that time from practically every section of the country, it is reasonable to presume that we have had and are still having a great many cases not recognized.

Tularemia is one disease, and probably the only one, which has been worked out and developed into a definite clinical entity in America, and by American doctors only. In 1911 McCoy and Chapin of Public Health Service, in studying a disease in California which was proving fatal amongst the rodents, isolated an organism which they named *Bacillus Tularensis* from the County Tulare in which they were working. About the same time Pearce was working in Utah with a disease of man caused by the bite of the deer fly, but it was not until 1919 that Francis set up a laboratory at Delta, Utah and established the unity of this disease with the Plague like disease of rodents.

Tularemia in man is caused by the bite of blood-sucking insects, such as the deer fly, horse fly, wood tick, rabbit louse, fleas and bed-bugs; or by contamination with blood of rodents. The seasonal incidence of the disease varies according to its geographical location. In the Northwest where the infection comes from tick bite, cases occur from March to August; those due to fly bite, from June to September. In middle West where infection comes from Jack Rabbits most cases come between April and October. Owing to the fact that there is no closed season for the jack rabbits, the exposures to the disease come from skinning and cutting up jack rabbits for fish bait.

The seasonal incidence of the disease in which we are most interested in this section of the country is January to March, the open season for hunting and marketing wild rabbits which are our greatest source of infection in man. Johnson and Tankersly in a paper entitled "The Game Bird as a Possible Disseminator of Tularemia" report one case of a woman becoming infected by a cut from a quail bone while cleaning quail, but I would hardly consider this one case report sufficient to make us afraid of handling quail. However, it might be wise for physicians of this section to be on the alert for cases of Tularemia emanating from a source other than the wild rabbit.

Edward Francis, U. S. Public Health Service, in a study of 679 case reports noted 4 types of Tularemia:

Ulceroglandular Type—The primary lesion is a papule of the skin, later an ulcer and is accompanied by enlargement of regional lymph glands.

Oculoglandular Type—The primary lesion is a conjunctivitis and is accompanied by enlargement of regional lymph glands.

Glandular Type—There is no primary lesion at site of infection but there is enlargement of regional lymph glands.

Typhoid Type—There is no primary lesion nor is there glandular enlargement.

According to Francis the disease is non-contagious. In a paper read before the A. M. A. at Minneapolis, 1928, he states that no instance has been reported of the spread of infection from man to man by mere contact or by the bite of insects which have previously bitten a patient. He states further that Surgeons who have incised or excised suppurating glands have not contracted the disease. Nurses who have attended these patients have not become ill. Yet C. E. Harris reports one case where a mother inoculated herself while dressing an ulcer on her son's finger.

In reviewing the literature of cases occurring east of the Mississippi River we conclude that practically all have become inoculated by the handling of wild rabbits, the hands becoming contaminated with the blood or viscera of these animals. So many of reported cases followed a cut on hand by a rabbit bone. Lillie and Francis is an interesting study of bone marrow in Tularemic rabbits and other rodents found that focal lesions are almost constantly present in

the bone marrow of acute Tularemia and frequent also in subacute Tularemia in rabbits and guinea pigs. This accounts for the frequency of this manner of infection.

The period of incubation ranges from 24 hours to 10 days, the average being $3\frac{1}{2}$ days.

The onset is sudden, often occurring while patient is at work. It is ushered in by headache, vomiting, chills or chilliness, aching bodily pain, sweating, fever and prostration.

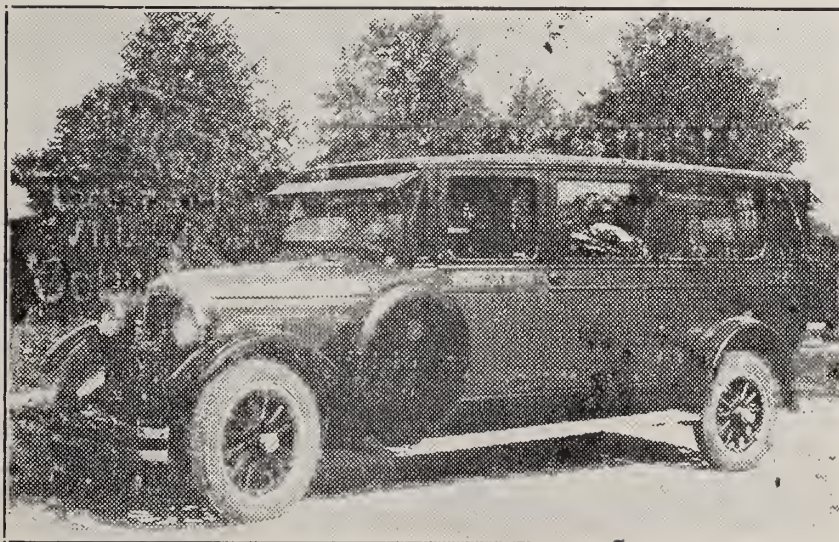
In Ulceroglandular Type the patient complains, within 48 hours after the onset, with pain in the area of lymph glands which drain the site of infection. These glands are found to be tender and slightly enlarged. Only the regional glands are involved. In about 24 hours after the glandular pains a painful, swollen, inflamed papule manifests itself at the site of infection. This papule breaks down, liberating a necrotic core and leaving an ulcer about 3-8 of an inch in diameter with raised edges and having a punched out appearance.

The skin becomes red over the tender swollen glands and this redness may extend to the site of infection, or there might be red streaks visible on an extremity. In about half the cases the glands go on to suppuration and if not incised will rupture through the thin spot in the skin. In the other half the glands do not break down but remain hard, palpable and tender for 2 or 3 months, gradually returning to normal.

Francis noted subcutaneous nodules simulating sporotrichosis on forearm and arm in 38 cases out

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of the 259 studied. They were distributed not only along the anterior surface of the forearm but also over the posterior surface of forearm and extend from the site of infection to the enlarged axillary glands. The nodules were firm and movable but a great many ultimately suppurated. They vary in size from that of a pea to one cm. in diameter.

Weakness, loss of weight, recurring chills, sweats and prostration continue through the active stage of disease, which lasts 2 to 3 weeks. In the Oculoglandular Type the symptoms and course are same as Ulceroglandular, except the primary lesion is in the conjunctiva. In the early stage the eye becomes very much irritated, weeping, swelling of lids and surrounding tissues, edema of ocular conjunctiva, and usually a papule on the lower lid. At the same time there is swelling, tenderness, and pain in some of the following glands: preauricular, parotid, submaxillary, and anterior cervical. Small, discrete ulcers very soon appear upon the conjunctiva of both lids. The constitutional symptoms and course of the disease are similar to the type above described. Permanent impairment of vision was noted in only one case in series studied by Francis. Blindness followed perforation of cornea and protrusion of iris. In the Glandular Type the disease occurs after dressing of rabbits with same constitutional symptoms and glandular enlargement without the primary lesions of hands or fingers. In the Typhoid Type the fever is the outstanding symptom. Most of these cases are diagnosed as typhoid fever until repeated negative widal reaction and a positive agglutination helps to correct the error. The onset and duration are the same as in the glandular types.

Fever is always present in Tularemia. There is an initial rise lasting 1, 2 or 3 days. A remission for 1, 2 or 3 days and a secondary rise, the whole febrile period lasting from 2 to 3 weeks.

There is little change in blood picture. Some of the reported cases showed a leucocytosis white blood cells running as high as 16,000.

Some cases have shown a definite skin eruption, usually bilateral. It was macular, papular, pustular, maculopapular, papulopustular, blotchy, or a rash. I do not think, however, that the skin lesions in this disease would have any more significance in the recognition of the disease than does the rose spots in typhoid fever.

Convalescence is slow. It is rare for a patient to be able to work at the end of a month. Some do not return to normal under 6 months or a year. Francis reports 2 laboratory cases who had relapse of fever lasting 6 and 8 days after 10 and 8 months respectively. Suppuration of lymph glands have been noted from 4 to 24 months after the onset of the disease. Recovery is usually complete without evident sequelae.

The complications are many and serious. Gudger and Ford of Detroit report a fatal case of Tularemic Pneumonia. The diagnosis was established by the agglutination of the patient's serum with *Bacterium Tularensis* in early stage of the disease; later the germ was isolated from fluid aspirated from the left pleural space, and by necropsy after death. Kilbury and Fulmer report a case of peritonitis occurring in a patient who had returned to work after an attack of Tularemia. By injecting guinea pigs with ascitic

fluid drawn from a patient they produced an acute Tularemia. They were also enabled to isolate the *Bacterium Tularensis* from the ascitic fluid.

Francis reports a case of appendicitis in one case four days after onset.

Diagnosis: The greatest aid in diagnosis is having the disease in mind. Francis gives a tetrad of symptoms if borne in mind will seldom fail to diagnose a case of Tularemia: (1) A history of having dressed or dissected a wild rabbit, or of being tick-bitten or fly-bitten; (2) A primary lesion of the skin in form of a papule, followed by a persistent ulcer or a primary conjunctivitis, followed often by ulcers of the conjunctiva; (3) Persistent glandular enlargements in the region draining the primary lesions; and (4) Fever of from 2 to 3 weeks duration. Having recognized the tetrad the diagnosis may be proven by agglutination of the patient's serum with *Bacterium Tularensis*.

Sterile blood is collected, about 5cc. as for a Wasserman. There is absence of agglutination during the first week of disease, but after its appearance it may continue for life. One case is reported where the agglutination was positive 19 years and 4 months after the disease.

As to pathology—practically every organ in the body may show signs of the disease. In practically all the necropsies reported the liver and spleen showed small nodules which were areas of focal necrosis. The lymph nodes showed focal and diffuse necrosis. The lungs showed plaques or small necrotic foci on the pleural surface. The cut section showed small focal necrosis or gray broncho-pneumonia patches, or the consolidation of almost the entire lung.

Prognosis—The mortality rate is 4 percent. In non fatal cases the recovery is slow but the patient gets back to normal in from 3 to 6 to 12 months.

Treatment—The treatment is symptomatic. Rest in bed is most important. The enlarged glands should neither be excised nor incised until suppuration has reached that stage where there is a very evident soft, thin place in the skin overlying the glands. No specific serums or vaccines have been perfected. Foshay claims beneficial results by treating a few cases with an anti-serum made from blood of goats. Miller of Baltimore and a large number of other investigators have reported remarkably beneficial results from the use of intravenous injections of convalescent serum.

Baer of Pittsburg treated the primary lesions in 2 cases with X-ray and concluded that the progress of the disease was arrested.

Fisher of Columbus treated 3 cases with neoarsphenamine intravenously and claimed as rapid improvement in this disease as is obtained from its use in syphilis.

SUMMARY AND CONCLUSIONS

The rapid increase of cases of Tularemia reported since so much publicity has been given it in med-

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ical literature in recent years, leads us to believe that the disease is more prevalent than we might think.

While the wild rabbits constitute the most important reservoir of the infection we might be on the alert for other potential disseminators of the disease.

The harmlessness of the intravenous infection of neo-arsphenamine and the results of this treatment reported by Fisher will justify further use of this drug in any case which might come our way.

With the conjunctiva as a frequent site of the primary lesion; with the skin lesions occurring in a great many cases; with appendicitis and peritonitis occurring as complications, Tularemia should be of vital interest to the eye man, the dermatologist, and the surgeon, respectively, as well as to the general practitioner.

Patient—Mary Oliver, colored, age 24, married, mother of 3 children.

Family history—Unimportant.

Past history—Negative.

Patient gives history of having cut her finger while cutting meat. A day or two later her husband brought in a young rabbit which he and his dog had caught while on the way from the field. This, as she stated was about the last days of May, 1933. She dressed the rabbit and cooked it for their supper. A few days later, the first days of June she began to have fever, nausea, chilliness, bodily pains. There was soreness and a little swelling just above the elbow on the inside of her arm and up under the arm, the cut place on her finger became very much inflamed and sore and later broke down leaving an open sore or ulcer. After the first 2 or 3 days the fever let up for a day or two and she felt some better but fever came back and continued for 3 or 4 weeks. Any effort to return to her farm work would bring on the fever. This continued till the last week in July and she was brought to me.

On examination I found a pretty sick negro. She was thin, pale and very much emaciated. The effort of climbing the steps to my office had just about exhausted her. She had a rapid, weak pulse and a temperature of 101. The epitrochlear glands and the axillary glands of both arms were very much enlarged and tender. There were subcutaneous nodules running from the epitrochlear gland of the right arm to the axilla. The patient complained of being unable to stand any exertion, poor appetite and extreme weakness.

I will have to confess to a rather cursory examination with failure to go into a thorough history of her case upon her first visit to me. I considered it a case of tubercular adenitis and prescribed Syr. Iodid of Iron with something to relieve her pain. She was kept on the Syr. Iodid of Iron throughout the course of the disease. She returned to me at infrequent intervals and it was at her last visit that I suspected the disease. The glands were never incised but ruptured and drained between her visits to me.

I saw the patient March 16th of this year and she has completely recovered. I obtained some blood and sent it to Hygienic Laboratory for agglutination test. Report on specimen was complete agglutination of B. Tularensis in dilution 1:640.

CLOSING DISCUSSION

Dogs have been proven immune.

Domestic cats and kittens inoculated by McCoy and Chapin and Wherry with tissues of infected guinea pigs and cultures of Bacterium Tularensis did not acquire the disease. This led them to assume that cats are naturally immune. By feeding infective material or by injections of heavy suspensions of pure culture of Bacterium Tularensis to 6 cats and 7 kittens. Francis was able to reproduce the disease in 2 kittens, the remaining eleven were unaffected. It seems reasonable to assume, from these studies that the domestic cat is mildly susceptible to the disease.

Simpson inoculated on the same day 2 dogs, 2 guinea pigs, and 2 Belgium hares with virulent cultures of Bacterium Tularensis recently recovered from the blood of a patient who died 4 days, 7 hours after onset of the disease. Guinea pigs died in 4 days, one Belgium hare died the 7th day, the other died on the 8th day. All showed evidence of the disease. Dogs were unaffected.

Dr. E. C. Parker

Dr. Edward Clifton Parker was born in Shelby County, Ala., on April 2nd, 1874, being the third and last child of W. G. and Lettie Hill Parker. He received his High School Education at Columbiana, Alabama; his A. B. degree from Howard College at Birmingham, Alabama, in 1896.

Attended Tulane University, New Orleans, La., graduating medicine in 1899. Began practice at Shelby, Alabama, (was physician for the Shelby Iron Company, for two years) then left for Hills Infirmary at Montgomery, Alabama, where he studied surgery for two years under Dr. L. L. Hill.

Moved to Gulfport, Miss., in Nov. 1903, where he has practiced continually except when studying in Europe and during the war.

Spent the year 1914, studying in France, England, Germany, and Austria, and was with the A. E. F. in France and Germany for 22 months. He is a member of the Harrison, Stone, Hancock Counties' Medical Society, the Mississippi State Medical Association, the Southern Medical Association, the A. M. A., and he is a Fellow of the American College of Surgeons and was elected a member of the Board of Governors of the American College of Surgeons at their Clinical Congress in Chicago, in 1933.

Dr. Parker is now Consulting Surgeon at the U. S. Veterans' Hospital, Gulfport, Miss., for the Louisville & Nashville R. R.

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Jackson, Mississippi

The Diagnosis Of Obscure Disease

(Illustrative Case Reports)

L. C. SANDERS, M.D.
Memphis, Tenn.

The physician daily sees patients who come for relief of one trouble and who have various symptoms that suggest the possibility of other troubles. Unless a careful study is made, at least some of the apparently non-essential conditions may be missed. It often happens that the careful investigation of minor complaints lead to the finding of serious disease. Examination must be within reason for the sick or near sick, and its extent will be based upon the judgment and experience of the physician.

Routine physical examination and simple laboratory tests may, at times, seem unnecessary and expensive to the patient, but the unexpected positive findings occur often enough to warrant such procedure.

CASE NO. 1. T. E. B., male, age 26.

CHIEF COMPLAINT: Gradual loss of weight and strength.

HISTORY: Six months ago his mouth became sore and he felt weak. His physician found two abscessed teeth, which were removed. He felt better for awhile. Soon the weakness returned and he began to lose weight. His appetite remained good. He was troubled with weakness and some numbness in his arms and legs. He voided his urine frequently. This was thought due to drinking of more water. The tonic prescribed by his physician increased his appetite but he continued to lose weight and strength.

EXAMINATION: Weight, 140 lbs.; former weight, 170 lbs. There was a grade IV Vincent's infection of his gums. The general physical examination was otherwise negative.

LABORATORY: Urinalysis two hours after lunch revealed sugar IV. Blood sugar at the same time was 286 mgms. percent.

DIAGNOSIS: (1) Diabetes mellitus. (2) Vincent's infection of the gums.

COMMENT: The history of progressive weakness, loss of weight, increased urinary output and numbness in his limbs were sufficient evidence to warrant an examination of the urine and blood sugar. This patient consulted his physician because of sore mouth and the other symptoms were overlooked or not considered serious enough to warrant further study. The diagnosis could have been made at the onset had a urinalysis been made. The Vincent's infection, producing the sore mouth, caused the primary complaint, but the obscure symptoms indicated the more serious disease.

CASE NO. II. Mrs. B. B. F., age 39.

CHIEF COMPLAINT: Pain and weakness in her knees.

HISTORY: For three months she had suffered with pain in her knees. There was no swelling of the joints and no fever. Her legs felt numb and she had difficulty in walking. Her physician examined her and found badly diseased tonsils. A tonsillectomy was done but the symptoms increased in severity. Physiotherapy and massage gave no relief. She became rapidly worse and was so unsteady on her feet that she had to hold to a chair in order to walk.

EXAMINATION: Weight, 126 lbs.; former weight, 130 lbs. The skin was icteric; teeth normal; tonsils had been cleanly removed. The general physical examination was negative. The tendon reflexes were exaggerated. The vibratory conduction sense was diminished in the lower limbs. There was moderate ataxia.

LABORATORY: Hgb. 70%; R. B. C. 3,800,000; W. B. C. 6,400; normal differential count; urine normal; Wassermann and Kahn tests negative.

GASTRIC ANALYSIS: Free Hcl. O; combined acids, 20.

DIAGNOSIS: Pernicious anemia.

COMMENT: The onset was first with pain in the knees. There was no swelling, stiffness or fever which might indicate inflammation. The occurrence of progressive weakness, numbness and ataxia were sufficient evidence to suspect a spinal cord lesion. These latter symptoms were overlooked in the presence of the original complaint of pain in the knees. This patient improved rapidly under treatment for pernicious anemia. After two years' treatment she has only a mild numbness in her legs, but the pain, weakness and ataxia have entirely disappeared.

CASE NO. III. B. J., male, age 20.

CHIEF COMPLAINT: Eczema of hands.

HISTORY: Three months ago he used a solution containing creosote in preparing posts for a yard fence. The following day his hands became swollen and red. This was followed by ulceration. Various lotions were used with complete healing in three weeks. The lesions recurred one month later and have grown progressively worse. At present, all the fingers of both hands are covered with small ulcers with yellow and brown crusts. There are also numerous small water blisters with intense itching. He came for advice concerning the management of the lesion on his hands. While sitting in the office discussing his hands, he was very restless, there was a coarse tremor of both hands, marked pulsation in the vessels of his neck, his face was flushed and he was perspiring freely. Inquiry elicited the information that for three years he has been very nervous, felt too warm, was conscious of palpitation of his heart, had increase in his appetite but no gain in weight.

EXAMINATION: The fingers of both hands showed a marked dermatitis, typical of epidermophytosis.

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There was a coarse tremor, equal in both hands. The eyes were prominent with positive Von Graefe and Dalrymple signs. The thyroid was slightly and diffusely enlarged, with bilateral thrill and bruit. The heart rate was 150 per minutes, but otherwise normal. Blood pressure, 180/70. The tendon reflexes were diminished. Only slight quadriceps weakness.

LABORATORY: Blood counts, Wassermann and Kahn tests were negative. Urine negative. Blood sugar, two hours after lunch, was 160 mgms. percent. Basal metabolism was plus 36.

DIAGNOSIS: (1) Diffuse toxic goiter. (2) Dermatitis, both hands.

COMMENT: This patient came for treatment of a lesion, on his hands. He did not mention any other symptom except under protest and after careful questioning. Later his mother stated that she had noticed his increased nervousness, increased appetite, rapid heart, the prominent eyes, the tremor of his hands, but had attributed the symptoms to a nervous disposition. This case clearly illustrates the ease which a major disease may be overlooked while treating a minor complaint.

CASE NO. IV. L. B. R., male, age 54.

CHIEF COMPLAINT: Pain in his back and chest.

HISTORY: Fifteen months ago he became aware of pain and soreness in the lumbar spine. His physician diagnosed a myositis and, under treatment, he was relieved within a few days. Two weeks later the pain recurred. The same treatment gave only partial relief. He suffered intermittently for nearly a year. During this period he was examined several times, the same diagnosis was made and he continued with his work. Three months ago he had an acute gastric upset with pain, nausea and vomiting. He was kept in the hospital for two weeks in a distant city for observation. No positive diagnosis was made and he returned to work. The pain in his chest and back became so acute that he consulted another physician, who made a complete examination, including x-rays of his spine. He was told that he had a large prostate and some trouble with his spine. He continued with his work until two weeks ago but the pains were so severe he had to take opiates for relief. He had lost 15 pounds in weight. There was no other complaint.

EXAMINATION: Weight, 150 lbs.; previous weight, 165 lbs. The blood pressure, temperature, heart, lungs and abdomen were normal. There was tenderness to pressure over the entire spine and at the juncture of the ribs with the spine. The tendon reflexes were active. The prostate was very large, nodular and hard. There were hard areas along the rectal shelf.

LABORATORY: Urine was normal. Hgb. 65%; R. B. C. 3,800,000; W. B. C. 9,500; Wassermann and Kahn reactions negative.

X-RAY: The pelvis, spine and all of the ribs were dense with metastatic lesions. There was some infiltration into the left hip joint but the bones of the lower extremity were clear.

DIAGNOSIS: (1) Carcinoma of the prostate. (2) Advanced carcinomatous metastasis into the skeletal system. (3) Secondary anemia.

COMMENT: In reviewing this patient's story it is easy to see how he could suffer for a year without the true cause being found. Backache is a common complaint. Persistent backache, without demonstr-

able evidence of foci should be evidence enough to warrant careful study. This is particularly true in a man at or past middle life. The prostate is frequently the cause of backache. Carcinoma of the prostate is usually symptomless at the outset. Routine digital examination of the prostate in all men seeking examination and advice, may be rewarded occasionally by finding a tumor of the prostate which has not metastasized.

CONCLUSION

These few brief case reports serve to emphasize:

(1) Seemingly unimportant symptoms may sometimes be the first indication of the onset of serious disease.

(2) Patients often elaborate upon one symptom, particularly pain, and fail to mention others which may be more important as a lead to the diagnosis.

(3) A careful physical examination of patients presenting obscure symptoms may be rewarded by finding early lesions in the curable stage.

(4) The laboratory will often solve the clinical problem when the history and physical examination fail to reveal the cause of the patient's complaint.
899 Madison Ave.

Coronary Thrombosis

DR. A. E. BROWN
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A complete description of the condition of acute coronary thrombosis with the diagnostic features during life, has been developed only within comparatively recent years, although the first case diagnosed during life was that described by Hammer in 1878. Dock's study of the condition appeared in 1896 and in it noted the occurrence of pericarditis. Osler in 1910 correlated the clinical and pathological findings but it remained for Herrick in 1912 to bring this condition to the attention of the medical profession with his classic paper on "Clinical Features of Sudden Obstruction of the Coronaries Arteries." Within the past ten years the literature on the subject has become very extensive.

The most frequent cause of acute closure of the coronary arteries is thrombus and in the majority of cases there has previously existed well defined sclerotic changes for sclerosis is more frequent in the coronary arteries than in any other except the aorta. The left coronary or one of its main branches is the vessel most often occluded.

The rate of obliteration of Coronary vessels plays an important part in the extent to which anastomotic channels develop. In normal hearts in which there is negligible amount of anastomosis of the coronary vessels and in which the arteries are essentially end arteries, sudden occlusion of larger branches is likely to result in sudden death. In hearts with developing

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sclerosis, narrowing the lumen, abundant coronary anastomosis is likely to occur and it is in this group that sudden coronary occlusion is best tolerated. Also, the size of the vessel occluded will be a factor, whether of large size supplying a relatively large area or a minute arterial twig which could hardly influence the heart except by bringing about some degree of myocardial fibrosis. The result of the cutting short of the blood supply to the heart muscle when death does not follow instantly—are the results to be expected in arterial occlusion elsewhere in the body. Infarction and anemic necrosis follows which in turn leads to either rupture of the heart, aneurysm or patchy areas of fibrosis. The heart will be found enlarged by hypertrophy in many cases and considerably dilated.

In the cases of sudden death the end is so immediate that there is an apparent absence of terminal respiratory agony without distortion of features and no muscular spasm.

In instances in which only small arterial twigs are occluded the symptoms might be no more than a twinge of pain or slight discomfort often thought due to some digestive derangement not known until possibly at autopsy after probably a later and fatal attack of the same trouble. Undoubtedly many cases occur without any revealing symptoms for it is not uncommon to find scars in the myocardium of persons who in life have given no history suggestive of infarction.

In the typical cases, pain is the outstanding symptom and is practically always present. The pain is sudden and intense usually retrosternal and epigastric and is not relieved by rest or nitroglycerine, usually requiring large doses of morphine for relief.

In association with the pain or as an independent and primary condition, dyspnea is the next most obvious complaint. The patient feels as if all his "breath were cut off." When deep respiration increases the intensity of the pain there is an increase in the rate of breathing to compensate for lack of depth.

Shock in some degree is practically always present. The skin is pale, cold, clammy and covered with perspiration. The pulse is rapid and weak, frequently very irregular; the heart impulse is feeble, the heart sounds are so muffled and distant that it is difficult at times to detect the heart's action. A gallop rhythm may be heard. The blood pressure quickly falls to 100 or 80 or even lower. Some degree of cyanosis is nearly always present.

Pulmonary edema usually occurs within a few hours in the bases of both lungs. It is of practically constant occurrence, especially in the severer cases, and Herrick and Murphy have reported instances in which a condition almost suggesting emphysema has occurred with coronary thrombosis.

Fever and leucocytosis usually develop from a few hours to twenty-four hours after the attack and are the results of absorption of the decomposition products from the necrosing muscle in the infarcted area. The temperature ranges from 100 to 102 or 103.

Pericardial friction sounds are frequently to be heard and when heard constitute one of the most important diagnostic signs. Such a rub does not develop immediately as it is due to the pericardial irritation over an infarcted area. They might not be

heard if the infarct lies deep in the heart muscle or if the pericardial involvement is on the posterior surface of the heart.

It was not because faulty observation that for so long a time attacks of coronary occlusion were mistaken for gastro-intestinal disorders. The pain is commonly epigastric. It is often associated with nausea, vomiting and diarrhea. Osler recognized the abdominal picture in many cases of angina pectoris and Herrick first called attention to the importance of these abdominal symptoms in occlusion.

The differential diagnosis of coronary thrombosis at times presents considerable difficulty. The condition is chiefly confused with severe angina pectoris or acute abdominal disease. The initial evidence of thrombosis rarely appears during unusual effort or excitement, circumstances which characteristically produce angina. The pain of thrombosis is not relieved by rest or by the administration of vasodilators and is much more lasting. Pain in the upper abdomen, shock, and gastro-intestinal symptoms may lead to confusion with perforated gastric ulcer, acute pancreatitis or cholelithiasis. Careful examination of the heart and lungs together with a careful history of the past digestive disturbances should enable us to make a correct diagnosis in almost all instances.

I have avoided mention of the electrocardiograph purposely because I believe in our everyday practice, very few of us have access to this means of diagnosis. However, for the sake of completeness I will mention its value. In the clear cut case of coronary thrombosis, with many of the cardinal symptoms present the electrocardiograph will not be necessary but in many mild and atypical cases its use will not only be of assistance but will be the only positive means of knowing the true condition present.

An abnormal elevation of the R T interval is characteristic of the first stage appearing as early as six hours after the beginning of pain. The second stage occurring as early as thirty-two hours after onset consists of a sharp inversion of the T wave which may last from six weeks to years. The electrocardiograph is also of value during the period of recovery as a guide in prognosis.

With the diagnosis made the treatment that all would agree to be of greatest importance is rest. But there is a wide variation in the advice patients receive as to the degree and duration of the rest. The feeling that these patients, like the convalescent from pneumonia or typhoid or ordinary congestive heart failure, may be guided back to active life in accordance with their apparent condition—heart rate, rhythm, blood pressure, sense of well being and the like—is wrong. A small infarcted area with mild symptoms may induce sudden, fatal disturbance of ventricular function. This may happen at any time after infarction has taken place, but is most imminent in the first few weeks. However mild the initial symptoms,

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however favorable the apparent clinical course, absolute rest in bed should be prolonged sufficiently to permit firm healing in an infarcted area of unknown size. Just how much time is required for enough repair to resist rupture or aneurysmal dilation is not known.

From four to six weeks should be considered a minimum and more if necessary. Only beyond this should the apparent condition of the patient be accepted as a guide to his gradual resumption of activity.

Pain is usually the first symptom demanding treatment and liberal injections of morphine are commonly administered and this is certainly to be advised. However Rizer has called attention to the frequency with which the pain of coronary occlusion can be relieved by Oxygen and the need for morphine correspondingly diminished. Heretofore, the use of oxygen in this disease has been reserved for those cases exhibiting cyanosis or dyspnea. But now it is thought that the pain is largely and perhaps entirely due to deficient oxidation in the infarcted area; that this deficient oxidation in the infarcted area can be relieved by the inhalation of oxygen; and therefore if used early and continuously thru the first few days oxygen may be the means of diminishing the tissue necrosis.

Stimulants are usually prescribed and by force of habit the one most often selected is digitalis. There is some difference of opinion concerning this question. Recently some experimental work has been done which indicates that in the presence of shock the output of the heart is diminished rather than increased by digitalis. Kilgore thinks this drug should not be used and pharmacologically shows why this is true. Increased tonicity and force of contraction are effects to be observed in certain conditions of fatigue or exhaustion—certainly not to be desired in

a heart with a portion of muscle with reduced or absent blood supply. Digitalis increases irritability and one may therefore suspect that it increases the chances of ventricular tachycardia or fibrillation. In favor of digitalis it must be said that it reduces conductivity thus sheltering the ventricle from excessive stimuli in cases of auricular fibrillation. Levine and Kilgore are of the opinion that this latter condition, auricular fibrillation together with congestive failure are the only conditions for which digitalis is indicated. Stimulation in any form should be avoided unless positively indicated by a dangerously poor circulation, because any heart beat force above that needed to maintain the necessary flow in the brain the lungs and coronaries merely augments the danger of rupture or aneurysm. In the first day or so, however, these dangers are less imminent and this is the time when a stimulation is likely to be most needed. Caffeine is recommended on account of its dilating effect on the coronaries.

It is common practice to combat disturbances of the heart beat mechanism after they appear. For block, which is often transitory, oxygen is of first choice; next is epinephrine in small, subcutaneous doses. For auricular fibrillation quinidine may be used and if this does not restore normal rhythm, digitalis.

Ventricular fibrillation is very frequently the cause of sudden death in coronary thrombosis. It may follow from large or small infarctions. It is therefore desirable if possible to take preventive measures without waiting for this arrhythmia to occur. Clinically and experimentally it has been found that quinidine will inhibit ventricular fibrillation. Now while admitting that quinidine is a dangerous drug yet since it will prevent a complication that is in itself critical, it seems advisable to use it in these conditions. Many cardiologists recommend that it be

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To link your heart with mine;
And when the moon is mellow
And stars in silence shine.

Though leagues and leagues divide
us,
This rainbow bridge of ours,
Like some sweet trail enchanted,
Unites us in Love's bowers.

There's not a demon dwelling
In earth or sky or sea,
With potency compelling,
To keep you back from me.

Love built our bridge of rainbows.
No evil shall ascend it.
In life, in death, our bridge shall
stand,
For Love shall still defend it.

—David E. Guyton.

Blue Mountain, Miss.

used routinely during the first two weeks of an attack in dosage of 0.2 gram three times a day.

Another drug used during the first ten days or two weeks is theobromine. Early when a slow blood stream may permit extension of the thrombus, when tissue on the border of the infarcted area is struggling for life and organization is beginning there is the need for the best possible flow through collateral channels. If the bromine by its dilating effect on the coronaries can bring about an improvement of coronary flow, then certainly it is indicated.

In considering complications there are two conditions which I wish to mention. Glycosuria and diabetes are commonly associated with coronary thrombosis. Several immediate fatalities have been reported following the injection of insulin. Levine recommends that the diabetes be neglected as far as insulin administration is concerned for at least a month or two. He also cautions against any intravenous antisyphilitic treatment as sudden fatalities have been reported following injection of arsenic compounds in cases of coronary artery disease.

The prognosis in the severe case is always grave and even in the milder cases should be considered serious. It was formally believed that no patient ever recovered from an attack of coronary thrombosis, but in recent years it has become more and more evident that a fair number of such patients recovered from the acute attack. It is now thought that the death rate is hardly more than fifty percent.

In each case one must consider all the factors before deciding upon how much useful activity such a patient can anticipate. Business and professional men must expect at best to work at only half time, while laborers can never look forward to a return to heavy work. It is best to accustom these patients to this outlook, for they frequently minimize the attack after recovery.

They should be cautioned against excessive smoking, drinking and eating. They also should avoid sudden strains such as running or heavy lifting. Many of these, are more easily said than done.

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Public Health News

As a part of the Commonwealth Funds' cooperative program with the Mississippi State Board of Health, they have awarded for graduate study in public health nursing five scholarships to Mississippi public health nurses.

These nurses given scholarships are:

Miss Loraine Scheuerman, Pike County to Teachers' College, Columbia, New York. Mrs. Estelle M. Dinkins, Yazoo County to Vanderbilt University, Nashville, Tenn. Miss Mary Louise Hartfield, Lauderdale County to Vanderbilt University, Nashville, Tenn. Miss Anne McGovern, Union County to Vanderbilt University, Nashville, Tenn. Mrs. Ella M. Sayle, Coahoma County to Vanderbilt University, Nashville, Tenn.

The scholarships are for a four months period beginning in September.

Reactions from parents of school children fifteen years ago, reflected by the following letters which were saved by one of the County Health Officers, are interesting.

"Dear Teacher:

"We received the note from the Doctor and will say that we give him medical attention when he needs it. We know that George has headaches but when he comes from school he complains of a boy in the 3rd grade by the name of Andrew Aimack who knocks him down and jumps on him. I wish you would give this your attention. I know boys are all alike but this boy is much larger.

Very respectfully yours,"

"Dear Teacher:

"I received a note which Martha brought home to instruct me to take her to a doctor. now I want you to know that I or my wife can Judge wen Marth needs medical treatment if Martha is sick I keep her home. I send Martha to school to be instruction my wife has ask you to give Martha some lessons to bring home and my wife would instruct her to complain about Martha she keeps her mouth open well she does just as any other child would wen interested or supriised it is more or less a habit with her and no catarrh she has a slight cold I will atmit but nothing more. So I hope you will give her some lessons to bring hom and we will instruct he the best we can,"

People now know the value of public health procedures and there is little questioning or opposition from parents. No letters such as these are now received.

On request, Miss Gladys Eyrich, supervisor of mouth hygiene activities in Mississippi, made an inspection of the school children's teeth at Shuqualak, Mississippi, with especial reference to mottled enamel. While the records have not been completely studied, they show that about one-third have the marking to a greater or less degree. An analysis of the water shows fluorine 2.8 per million. An outstanding fact about the teeth of the children at Shuqualak is that except for the mottling, the teeth are wonderfully constructed, with little caries. Only one child out of 170 examined had badly decayed first permanent molars.



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NO. 3

Soliloquy from "Hamlet"

To be, or not to be; that is the question;
Whether 'tis nobler in the mind to suffer
The slings and arrows of outrageous fortune,
Or to take arms against a sea of troubles,
And by opposing end them. To die: to sleep:
No more; and by a sleep to say we end
The heart-ache and the thousand natural shocks
That flesh is heir to; 'tis a consummation
Devoutly to be wished. To die; to sleep;
To sleep: perchance to dream: aye, there's the rub;
For in that sleep of death what dreams may come,
When we have shuffled off this mortal coil,
Must give us pause: there's the respect
That makes calamity of so long life;
For who would bear the whips and scorns of time,
The oppressor's wrong, the proud man's contumely,
The pangs of despis'd love, the law's delay,
The insolence of office, and the spurns
That patient merit of the unworthy takes,
When he himself might his quietus make
With a bare bodkin? Who would fardels bear,
To grunt and sweat under a weary life,
But that the dread of something after death—
The undiscover'd country from whose bourn
No traveler returns—puzzles the will
And makes us rather bear those ills we have
Than fly to others that we know not of?
Thus conscience does makes cowards of us all,
And thus the native hue of resolution
Is sicklied o'er with the pale cast of thought,
And enterprises of great pith and moment
With this regard their currents turn awry,
And lose the name of action.

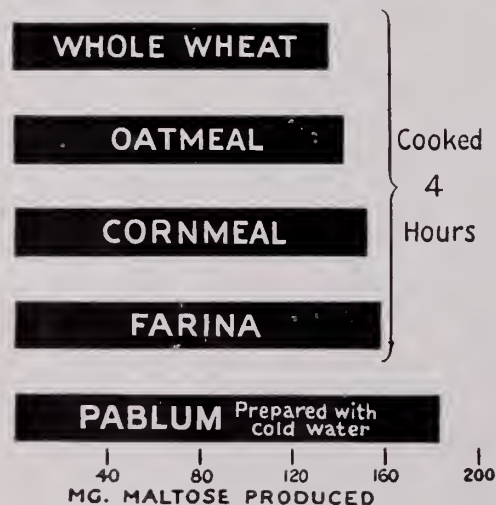
—William Shakespeare

Why Starch of PABLUM Is More Quickly Digested than that of Long-cooked Cereals

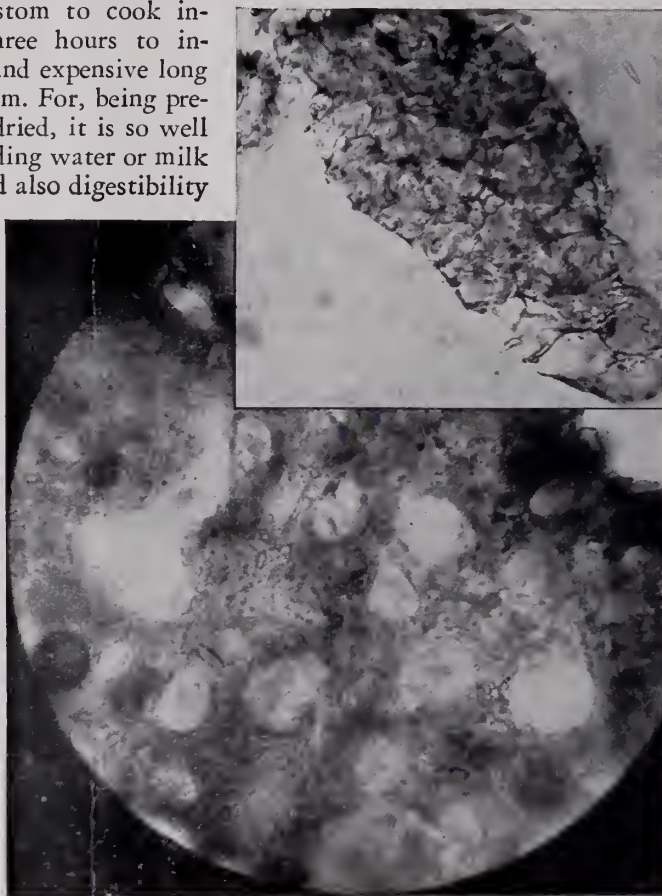
FOR many years it has been the custom to cook infants' cereal one, two, and even three hours to increase its digestibility. This bothersome and expensive long cooking is proven unnecessary with Pablum. For, being pre-cooked at 10 pounds steam pressure and dried, it is so well cooked that it can be served simply by adding water or milk of any temperature. Photomicrographs and also digestibility studies *in vitro* give evidence of this thorough cooking.

Fifteen cereals (both cooked and uncooked) studied microscopically were revealed as containing many starch granules, most of them massed into dense clumps. *Such unruptured clumps were never observed in hundreds of examinations of Pablum.* The latter consists, rather, of porous flakes which, like sponges, drink up liquids. Hence Pablum can be entirely saturated by the digestive secretions. This is borne out by studies of Ross and Burrill who found that the starch of Pablum is more rapidly digested than that of ordinary cereals cooked 4 hours.

Table shows that maltose production is much greater for Pablum prepared with cold water than for other cereals cooked 4 hours. Ross and Burrill (*J. Pediat.*, May 1934) conclude from this and from the total soluble carbohydrate formed that starch digestion of Pablum is more rapid than that of 6 other cereals.



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Large photomicrograph: Pablum mixed with cold water—portion of large flake. Pablum flakes are honeycombed with "pores" or air-spaces (note light areas). This porosity permits ready absorption of digestive fluids by the entire flake. No starch granules appear—they have been completely ruptured.

Inset: Farina cooked 1/2 hour—clump of tissue including starch granules. Note density of clump and lack of porosity. Many starch granules, such as are present in raw cereal, remain unchanged in form.

BESIDES being thoroughly cooked and readily digestible, Pablum supplies essential vitamins and minerals, especially vitamins A, B, E, and G, and calcium, phosphorus, iron, and copper. It is a palatable cereal consisting of wheatmeal, oatmeal, cornmeal, wheat embryo, alfalfa leaf, beef bone, brewers' yeast, and salt.

Reprint of Ross and Burrill paper sent on request of physicians.

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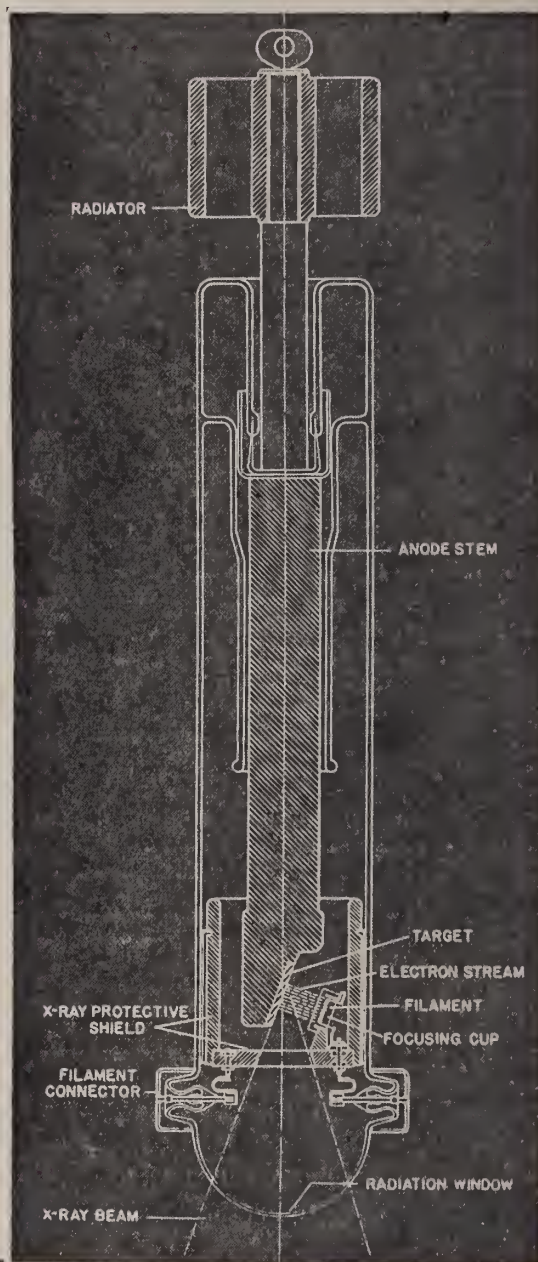
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EDITORIALS

The quotation from Shakespeare on the front is quite appropriate at this time, has been for the past three years. The medical profession has been in this plight. "Whether to do or not to do," whether to try to carry on or to give up, to pay out or let go, to try to buy gasoline or to walk. The medical profession has been through the rub. But glory to its valor, to its courage, to its persistency, to the unparalleled sacrifice that its members have made. Whether to go forward in the fight or to give up has been in the minds of thousands. Hundreds and even thousands have taken the unknown traveler's route, the gun or the poison route, suicide. Their moral courage failed them. A big percent of every doctor's clientele has been affected with "depression psychosis." To treat their infections has been only a small part of the problem. Their social adjustment has been one of the important factors. The doctor has been called upon, the successful one, to render treatment for a malady which had knocked at his door, had flown over his head, one that he knew, yet knows is real. The medical profession has wrought well. But the fight is not over. A new era has been ushered in for us. In addition to preventive medicine and preventive surgery social ethics must be studied and treated. The problem of social adjustment is here to stay. The responsibilities of the medical profession have been multiplied. The opportunities are greater than ever before. The call for more education and a different variety for the rank and file of practitioners. The question is will the medical schools, will the profession meet the demands and go forward.

Ethyl alcohol is the fiery liquid that has, is and will ever be in question. It has a very small place in medicine. Truly speaking it is not a food, but is conserves other foods to a certain extent and in this way serves indirectly in a measure. It may act as a nerve sedative to a certain degree, but the second state of the nerve is not as good as the first. It is a sedative. In large enough quantities it may be an anesthetic. Its main action is on the brain, the central nervous system. It may act as an appetizer to a certain degree. It causes the gastric juice to flow, so will soup or a dry bone in the mouth. It does not really help to digest the food. It does not add strength to any muscle. It loosens the tongue of course. It is not a heart stimulant. It really weakens the circulation. It causes the vessels of the skin to dilate, takes blood away from other parts of the body, the heart has to beat faster to supply the blood. In cold weather it may cause the blood to become chilled out in the skin and in this way predisposes to disease, especially to pneumonia and tuberculosis. In large doses it may paralyze the respiratory center and in this way cause death. It lowers the body temperature inside by throwing the blood out to the surface. It is harmful in this way as we need to keep the internal body temperature. It predisposes to sunstroke in hot weather. It delays nerve response, makes messages travel slower through the brain. A drunk man is slow to act when he sees danger, delayed twenty-five feet at a rate of forty miles. So the drinking man has plenty of time to cross into eternity before he can get his hands to act after he sees the trouble. The fish

has time to get off the hook before he makes the pull. It also destroys the care a man has for himself and others and presents in this way the biggest problem we have on the highway. Alcohol in excess causes defective offsprings, mentally and physically for several generations. When you drink alcohol you drink weakness and deficiency to your offspring, and your nation for years to come. The alcoholic has poor resistance to disease of almost any type and he stands an operation poorly.

About the only disease it helps as a medicine is worry and it cures it like an ostrich hides. In certain mental diseases it was found that eighty percent were heavy drinkers before they were thirty. Alcohol in a large measure is the index to mental disease. Alcohol is no good in the treatment of tuberculosis, not essential. A very large percent contract venereal disease while drunk or drinking and it is very hard to cure it in the drinking person. The alcoholic dies earlier than he would have had he not drank as a rule. The insurance companies recognize this. Alcohol is not a life giver. It is a life taker, reduces the length and the breadth. Many of the above facts have been observed by Dr. Emerson, Professor of Public Health Practice, Columbia University. We have outlived the whiskey age. We cannot afford the money for whiskey during these hard times. It costs us too many accidental deaths in addition to the cost of the fiery fluid. The man who drinks is not able to meet the demands for the survival of the fittest mentally or physically. It shortens a man's life, makes it weak and inefficient in volume, and produces a poor outlook for his posterity and his nation. It does not deserve to be dignified by the law.—Booneville Independent.

You will read with interest the compilation of opinions on the whiskey problem by Dr. Seale Harris. We thank Dr. Harris for this. The doctor of today must be interested in human problems. It is not all of the practice of medicine to prescribe pills. It is not enough to know the bacteria that attacks a man, you must know the man, the individual human organism as well. To really know him you must know his habits, his pleasures, his troubles, his strong points and his failures. The medical profession has a big responsibility in the problem of strong drink. We have outgrown the whiskey age. This civilization can not consume strong drink and go forward. The drinking man can not make the grade mentally, physically, nor economically. Whiskey is a big factor in accidental death that reaches a hundred thousand a year now in the United States. It is yet a big factor in the problem of venereal disease. The medical profession should set a good example. Whiskey does not stimulate thought, moral courage, nor is it conducive to physical endurance, or mental accuracy.

You will note in this issue that the American Medical Association is not opposed to group insurance for hospitals provided it is conducted in the right manner, provided it is under the control of the medical association. The principle is right for the man who keeps well to help pay the hospital bill of the one who gets sick. If a man plays sick when he is not and insists on going to the hospital then the plan will not succeed.

The next meeting of the North East Mississippi 13 County Medical Society will be held at Houlka on the third Tuesday in September. This is one meeting that you can not afford to miss. It is the home of our father of general practice in North East Mississippi, Dr. W. C. Walker. And he is more than this. He is an orator, a philosopher a courtly admirer of the fair damsels of Dixie. He is a fisherman of no mean ability. He is an entertainer of the graduate school of Southern hospitality. It is also the home of our president, Dr. J. M. Hood. He is one of the corner stones of the safe and sound practitioners. Houlka is a quaint little city that will treat you cordially and friendly and give you inspiration. And then the scientific program will be fine. Dr. McLester of Birmingham, President of the American Medical Association will be with us. This is a marked distinction. Many other distinguished men will be on the ground and some on the program. It will be a history making meeting, a meeting long to be remembered.

The problem of malaria is still one of our gravest in medical economics. We know the parasite that causes it. We know the offending mosquito that harbors it and injects it into the human blood stream. We know the medicine that we count a specific for its cure. But malaria is on the increase and the number of deaths caused by it is mounting. Its eradication is a challenge to the medical profession and it a duty of the national government. The medical profession should do its full duty first. It is not enough to report every ache and pain and obscure fever malaria and tell the patient to take quinine or vinotone. We should know whether the patient has malaria or not. The parasite must be identified under the microscope. The prescription to the patient must be definite. The gravity of the disease must be impressed upon the patient, the surety of return unless the treatment is very thorough. The laity must be taught that malaria parasites are carried by the mosquito and that it is not caused by swamp water. The individual home must feel its responsibility in this cause, each must rid itself of its own mosquitoes as nearly as possible. The national government must lend its aid to the destruction of the mosquito and to screening against her. The doctor who can clear his community of malaria should be awarded a cross of gold and a crown of silver. You can not be too persistent, you can not be too thorough in your every day duty of treating malaria.

It is with deep regret that we learn of the illness of our president, Dr. E. C. Parker, of Gulfport. Dr. Parker is quiet and un-assuming, but what he is speaks very loud. The medical profession of the state knows his worth. He has been a builder for organized medicine, for progressive medicine. He is one of the corner stones. His services are needed each day. We trust that his health may be entirely regained at an early date. This journal expresses the wish of every member of the Mississippi State Medical Association and many of the profession outside the state.

Chronic Pyelitis In Infancy and Childhood*

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There is probably no condition in infants and children which offers greater difficulty in correct anatomic diagnosis or a more trying therapeutic problem than chronic urinary infection. As a rule, persistent pyuria leads to the inadequate diagnosis of chronic pyelitis. While this designation is clinically convenient to employ, a careful study in even a small series of these cases at once indicates that existent lesions in the kidney pelvis are meagre and of minimal concern. In nearly all the dominant lesion is a chronic suppurative pyelonephritis, usually of the interstitial variety, and is regularly associated with urinary stasis (urinary constipation, Von Lichtenberg). The stasis in turn most often results from obstruction at some point along the urinary passages, but may be due to neuromuscular disease of these channels.

Acute urinary infections are commonly diagnosed acute pyelitis or acute cystitis; usually they are self limited and disappear within one month spontaneously or in response to treatment. When urinalysis reveals pyuria and infection for more than four to six weeks the diagnosis of chronic pyelitis is regularly made, the usual courses of urinary antisepsis and chemotherapy are observed, yet the infection remains. Failure to cure the infection within one month by vigorous medical treatment indicates a complete urological examination. Only by such an examination can the various anatomic-pathologic features of the disease be determined and, by the same token, rational therapy instituted. By complete urologic examination in more than 500 juveniles with chronic urinary infection we have demonstrated almost every variety of uropathology known to exist in adults. These observations adequately explain why medical therapy is unsuccessful in so many cases and why, in others, radical surgical treatment must be resorted to.

Urinary infection may appear at any age and is most common before the age of two years. Because these infections so frequently complicate bacterial processes elsewhere, urinary infection in its strict sense, is probably the commonest infectious disease of childhood. Yet most of these infections are transient and pass unrecognized; it is only the more virulent which attract clinical attention. Some children are born with pyuria while in others its demonstration occurs during a routine urinalysis, perhaps while non-urologic disease is under investigation.

In chronic urinary infection, the colon bacillus is the organism most commonly found, usually *B. coli communis*. Next in frequency are staphylococci. Although most observers have indicated the incidence of colon bacillus to be approximately 90 percent in urinary infections in children, in a bacteriologic study of the urine in over five hundred cases of chronic pyuria, we found the colon bacillus in 58 percent. The incidence of staphylococci was but somewhat less, 34 percent. In a series of adults bacteriologically studied

by Young and his associates, staphylococci were found nearly as often as colon bacilli. These data emphasize the fact that staphylococcus urinary infections are of high incidence. Streptococci, proteus bacilli, and other common organisms occur with far less frequency and constitute 5 to 20 percent of the bacterial invaders.

It matters little whether the bacteria reach the kidney by the hematogenous (descending and probably the most common), the lymphogenous, or the urogenous routes (ascending). Histologically, the chief involvement is found in the renal parenchyma, particularly in the interstitial tissues between the tubular units. In these interstitial tissues course the blood vessels and lymphatics through which bacteria are transported and in which metastatic bacterial localization occurs. Inflammatory destruction or toxic injury of the adjacent tubules and diffuse inflammatory infiltration, suppuration or sclerosis is the usual picture. As has been pointed out by Chown, Schloss and Wilson and others, the usual kidney lesion is a chronic interstitial suppurative nephritis. Glomerular injury is variable; changes in the pelvis are usually disproportionate to the marked pyuria. It is noteworthy that most of the urinary pus originates in the renal parenchyma rather than in the pelvis or peripheral urinary channels. When obstruction is an accessory factor, changes due to parenchymal compression are superimposed on those due to infection and inflammation.

Persistent renal infection is seldom, if ever, an uncomplicated lesion. There may be stone in the renal pelvis or elsewhere in the urinary tract. There may be vascular or congenital obstruction at the ureteropelvic junction; stricture, valves or kinking of the ureter, vesical diverticulum, contracture of the bladder outlet or neuromuscular disease, congenital hypertrophy of the verumontanum, congenital valves of the posterior urethra, stricture of the urethra and commonly, atresia of the meatus or, rarely, a tight prepuce. One of these obstructions is most likely to be found in so-called chronic pyelitis but this list by no means includes all of the lesions which have been demonstrated to be etiologically associated with persistent urinary infection. Only by urologic examination can the site and character of the obstruction be determined and only with the removal of the blockage can cure of the infection be hoped for in most cases. I am aware of the gratifying results recently reported by Helmholtz who by use of the ketogenic diet, achieved urinary sterilization in three cases of persistent pyuria associated with urinary tract anomalies.

SYMPTOMS: Frequently chronic urinary infection causes no symptoms other than pyuria. As a rule, however, there are localizing symptoms—frequency, urgency, dysuria, vesical discomfort, loin or renal pain, hematuria and so forth—which attract attention to the urinary tract.

When the chronic urinary infection is moderately

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advanced, gastro-intestinal upsets such as anorexia, "biliousness," indigestion, gastritis, dyspepsia, nausea, sometimes vomiting, loss of energy, fatigability, anemia, loss of weight or failure to gain occur in over 50 per cent of these cases. Often the gastro-intestinal manifestations are so striking as completely to misdirect attention from the urinary tract.

A low grade fever is not uncommon and with the advent of acute obstruction, a sharp rise in temperature, sometimes with temporary clearing of the urine, occurs. Such an attack is commonly diagnosed acute pyelitis. From the parent, it is often learned that the child with chronic urinary infection has had numerous intermittent attacks of so-called acute pyelitis. When there is free drainage there may be no temperature. Fever of unexplained origin in a child always demands a thorough urinalysis.

As the renal disease progresses, neurologic disturbances due to urinary toxemia commonly occur. Of these, headache is the most frequent but there may also be irritability, lassitude, sleeplessness and, in advanced disease, convulsions or stupor.

DIAGNOSIS: This is suggested by the elicitation of the symptoms discussed in the preceding paragraphs. Only by complete urologic examination is it possible to determine the underlying anatomic lesions as well as the degree of functional disturbances of the kidneys.

It should be unnecessary to stress the importance of a thorough physical examination for frequently we find the "chronic pyelitis" is perpetuated by a focal infection in the upper respiratory tract (or elsewhere). Moreover, in some instances, the renal lesion is chronic caseous tuberculosis, secondary to pulmonary or lymphatic disease. Abdominal palpation may reveal renal or vesical enlargement; genital inspection and palpation may disclose a chronic urethritis, vaginitis, or epididymitis. Repeatedly I have been asked to perform urologic examination in girls said to be suffering with chronic pyelitis yet in whom the catheterized bladder specimens were normal while a profusely discharging vaginitis served to contaminate the voided urine.

Urinalysis for pus, blood and bacteria is the key-stone in the diagnosis of urinary infection. In these cases, we are but slightly concerned with the albuminous content. In the examination of the urine, it is essential that in girls only catheterized specimens be examined. Catheterization eliminates the likelihood of labial contamination of the specimen. Having introduced the catheter it is essential that a few cubic centimeters of urine be allowed to flow away in order to remove any urethral debris which may have caught in the catheter eye. Moreover, it is important in the collection of catheterized specimens that the bladder be entirely evacuated lest an unsuspected purulent collection remain. This is particularly true in bedridden patients in whom the supernatant vesical urine may be relatively clear but the debris on the floor of the bladder purulent. In boys, the urine specimen may usually be satisfactorily obtained by voiding. Before urination, however, the prepuce is well retracted and the glands and meatus are thoroughly washed with soap or an antiseptic solution such as bichloride of mercury 1:1000. A few cubic centimeters of urine are allowed to pass before specimen collection is begun. Only with due recogni-

tion of these essentials in the collection of urinary specimens will one be able to determine accurately the bacterial invaders and the relative degree of pyuria. Moreover, smegma bacilli which so often contaminate the labia or prepuce have been reported as tubercle bacilli.

When chronic urinary infection has been demonstrated, a rigorous course of medical therapy for one month should be instituted. This includes the elimination of focal infections, a stimulation of intestinal excretion, the improvement of nutrition and the intensive administration of urinary antiseptics in large doses. Although the more recent dye derivatives such as pyridium, acriflavine, serenium and others have been favorably used by many, in my hands greatest success has followed the employment of methenamine, together with the necessary acidulant, in large doses. This drug is given in doses the computation of which is $12\frac{1}{2}$ grains per day per year of age. Thus a child of two years receives 25 grains per day. The usual maximum dose in children is 75 grains a day although on occasion I have given as high as 90 grains without untoward effect. Certain children exhibit an idiosyncrasy to methenamine and cannot take as much as 5 grains a day but this is rare. Others manifest a drug intolerance to the larger doses but many will satisfactorily take a dose 10 to 15 grains per day less. Needless to add, methenamine is ineffective unless the urine is acid and it has been found that the greater the urinary acidity, the higher is the therapeutic coefficient of the methenamine. For urinary acidification I customarily employ ammonium chloride in doses half that of the methenamine. However, acid sodium phosphate may be used in doses ranging from 20 to 60 grains a day but is less effective than ammonium chloride. Methenamine and the acidulant are given together for four to six days when a rest period of two to four days is given and the drug therapy is then repeated. By this method a bacteriologic cure, as evidenced by two sterile cultures, will sometimes be obtained. If cure by drug antisepsis is not achieved within two weeks it is useless to persist longer with this treatment.

Yet urinary sterilization is often achieved by means of the ketogenic diet. This invaluable therapeutic phenomenon should be more often employed by general practitioners as well as by pediatricians and urologists. Doubtless lack of familiarity with the method explains its heretofore rather limited use. It seems advisable, therefore, to consider the ketogenic diet somewhat at length at this point.

In 1931 Helmholtz noted that the urine of an epileptic child in therapeutic ketosis failed to show bacterial clouding after standing for a week in a warm room. Investigation disclosed the antiseptic agent in ketone urine is betaoxybutyric acid which is bacteriocidal in strengths greater than one half per cent and when the pH is less than 5.6. Urinary sterilization by ketogenesis has frequently been achieved in

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Oto(ear)-laryngo(throat)-rhin(nose)-ology
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cases of chronic infection perpetuated by urinary tract anomalies; heretofore, in similar cases, the infection has resisted all other methods of medical therapy. Yet it cannot be overemphasized that in such cases the urologic investigation and treatment must not stop with the disappearance of the infection; the underlying obstruction or other lesions which were etiologically associated with or served to perpetuate the urinary infection must be adequately treated. Meanwhile control or elimination of the infection by the ketogenic diet renders instrumental or surgical therapy safer and by the same token the likelihood of ultimate anatomic cure greater.

The object of the diet is to produce ketosis. This is manifested in the urine by a strong acetone and diacetic acid reaction and in the blood plasma by a lowered carbon dioxide combining power. Because the body fats "burn in the flames of the carbohydrates," ketosis is brought about by a reduction of the carbohydrate intake with a corresponding increase in fat ingestion. With incomplete fat oxidation an excess of intermediate ketone bodies are formed. Ketosis is regularly achieved when the fat-carbohydrate intake ratio (grams) is about four to one and will frequently develop when this ratio is three to one but as therapeutically employed, the diet ratio may reach even twelve to one. In order to avoid digestive disturbances, especially in children, it is wisest to begin the dietary alterations gradually. In the beginning nausea and vomiting sometimes occur but can be controlled by the judicious administration of orange juice or a small amount of carbohydrate.

The caloric requirements of the child are 50 calories per kilogram of body weight. The protein intake is constantly maintained at one gram per kilogram of body weight. Thus to begin the diet in a

child of 25 kilograms, 25 grams (100 calories) of protein are given together with 60 grams (240 calories) of carbohydrates and enough fat to make up the 1250 (25x50) caloric requirement; in this case, 100 grams. The following day the carbohydrate is reduced to 50 grams and the fat is correspondingly increased. The third day the carbohydrate is decreased to 30 grams, the fourth to 20 grams, the fifth to 15 grams and the sixth to 10 grams. On each of these days the fat is increased to make up the required 1250 calories; the protein intake remains 1 gram per body kiloweight. By the end of this six day period (but more often by the third day) ketosis is usually well developed and the urine titre is usually well below pH 5.5. In the 20 to 30 per cent of cases in which the urine is not sterile at this time, the ration of the sixth day is maintained two, four, six days or longer but if infection still remains the diet is discontinued to be repeated in a few days. It has been found that after the diet has been enforced for some time, the pH gradually rises to 6.0 or above and is no longer bacteriocidal (Helmholz). The diet is seldom continued longer than ten days.

When the diet does not cause the urine titre to fall below pH 5.5, Helmholz advocates the daily administration of 1 to 3 grams of ammonium chloride and I have given as high as 9 grams. Moreover, it is good practice to render the urine strongly acid for a day or two preceeding the assumption of the diet and to administer ammonium chloride or ammonium nitrate in larger doses throughout the dietary period.

The ketogenic diet should not be employed unless the patient can be under strict supervision; it must be followed as rigidly as a diabetic diet. Unknown to the parent the child may take unprescribed carbohydrates, candy in particular, and thus dimin-



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ish or neutralize his ketosis. Even more important, the child may develop marked acidosis which, at home and unrecognized by the parents, may be of serious consequence. For these reasons the best results will be obtained when the patient is under close supervision in a hospital. Here, too, the urinary changes can be more advantageously followed in the laboratory. Hospitalization does not mean confinement to bed. Patients do best on moderate exercise; this increases the oxidation of fats and thereby favors ketosis. Moreover, exercise helps, in a measure, to combat the constipation which the ketogenic diet so commonly engenders.

It is important that the child can digest fats. For this reason the diet is contraindicated in infants, in acutely ill older children and as a rule, in children who are ill with chronic urinary infection and whose digestion is poor. Furthermore, some children whose alimentation is usually good are unable to digest the ketogenic diet. During the employment of the diet the water intake is maintained at normal in order to avoid dilution of the bacteriocidal elements.

The diet must be continued for a longer period to cure renal infection than to cure vesical infection. Best results have been obtained in the treatment of colon bacillus infections but the diet is also effective against coccal invasions. Approximately 70 per cent of patients with bacillary infection and in whom the diet has been properly prescribed and carried out, have been cured.

When drug antisepsis fails to cure or even when, as indicated previously, the ketogenic diet sterilizes the urine, a complete urologic examination is indicated to determine all of the etiologic factors as well as their anatomic results.

Before proceeding to cystoscopic examination certain precystoscopic data should be obtained. This includes an estimation of the blood chemistry (urea or non-protein-nitrogen and the CO_2 combining power), a determination of phenolsulphonphthalein excretion and a plain roentgenogram of the urinary tract for stone shadows or such spinal defects as spina bifida. A cystogram is made by filling the bladder per catheter with 5 per cent sodium iodide following which X-ray films are made. The resulting picture indicates the vesical outline and may show ureters reflux of the media from the bladder or a filling of the posterior urethra. The latter is commonly observed with congenital valvular obstruction of the prostatic urethra or in neuromuscular disease of the bladder outlet in which the internal sphincter is atonic. Sometimes cystography alone suffices to establish the diagnosis and renders cystoscopic examination unnecessary.

Since the introduction of intravenous urography in 1930, I have almost routinely employed this method preliminary to instrumentation in order to obtain as much precystoscopic information as possible. In many instances the data thereby obtained has rendered retrograde pyelography unnecessary. Moreover, in certain cases of upper tract obstruction in which ureteral catheterization is impossible, intravenous urography furnishes the only clue to the pathology on the diseased side. Satisfactory excretion urograms in infants and children are favored by a moderate dehydration of the child for twelve to eighteen hours prior to injection of the medium. This means only the restriction of fluids. A more concentrated urine

is thus obtained and, by the same token, the increased concentration of radiopaque medium in the excreted urine gives a denser urographic shadow.

When this precystoscopic information has been obtained, cystoscopy is performed. General anesthesia is required in most girls under 5 years of age, in most boys under 7 years and in all children in whom excitability, lack of cooperation or instrumental pain exists. Unless the patient is reasonably quiet, cystoscopy is not only difficult to perform but there is grave danger of serious trauma. In many children local anesthesia of the urethra suffices. I have now employed caudal anesthesia more than 100 boys over the age of four years with striking success. When regional block anesthesia is used, the chief objection to cystoscopy in children—general anesthesia—is eliminated. At the present time we resort to general anesthesia in approximately 30 per cent of our juvenile patients.

By cystoscopy the bladder wall, bladder outlet and posterior urethra are examined, the ureters are catheterized, separate kidney specimens are obtained, differential renal function tests performed and, when indicated, retrograde pyelography is carried out. Routinely I use indigo carmine intravenously for renal differential tests although aware that most others employ phenolsulphonphthalein. The indigo carmine is administered on the basis of 1 cc. for each two years of age. For example, a six-year-old child receives intravenously 3 cc. Bilateral pyelography is commonly performed when previous intravenous urograms have been unsatisfactory or not made. For retrograde injection I use chiefly neoskiodan 15 per cent. The various media designed for intravenous urographic injection cause no ureteral or renal irritation and offer the advantage of greater urographic clarity when used for retrograde pyelography.

By complete urologic examination in infants and children with chronic urinary infection practically every urologic lesion known to exist in adults has been demonstrated. The striking exception is carcinoma of the lower urinary tract. In a five-year-old boy, a typical prostatic median lobe hypertrophy was seen.

Although active opposition to the performance of urologic examination in children is regularly encountered by urologists, a comparative survey of the urinary pathology which can be diagnosed and revealed in the living child by no other method, and the minimum risk attendant upon cystoscopy, leaves little ground for argument against the advisability of such instrumentation. In a study of the febrile reactions following 461 complete urologic examinations, in only 9 per cent of these did the temperature reach 100 degrees F. and persist longer than forty-eight hours. It is noteworthy that in the majority of children showing post cystoscopic reaction, general anesthesia was employed. In only one instance did a reaction cause concern. In this girl of thirteen months a conservative dilatation of a ureter stricture on the side of a badly infected hydronephrotic kidney was

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followed by a high temperature and urinary sepsis which persisted for four days. However, such an occurrence is not limited to children; this child recovered. In a comparative study of post-cystoscopic reactions in juveniles and in adults at Bellevue Hospital, I found the morbidity in the young was slightly less than half that in the older patients.

TREATMENT: The medical treatment of chronic urinary infection including the use of the ketogenic diet has been previously indicated. In those cases in which urinary sterilization is achieved, and this will not be rare, especially with the ketogenic diet, one should ascertain by intravenous urography that urinary obstruction causing insidious renal injury and predisposing to subsequent renal infections, does not exist. To repeat: Even though the infection is cured by medical measures, these obstructive lesions must be eradicated.

Yet medical therapy will often fail and the lesions disclosed by urologic examination will require urosurgical treatment. This may be of an instrumental nature such as urethral or ureteral dilation, removal of posterior urethral valves or resection of a contracted bladder neck, lithopaxy or, occasionally, pelvic lavage. If adequate renal drainage is established, lavage is unnecessary and I do not employ it. While instrumental treatments are in progress, the administration of urinary antiseptics in moderately large doses often aids in the rehabilitation of the urinary tract. By the employment of these combined measures, urinary sterilization is often accomplished.

Not infrequently, urologic examination reveals a lesion which demands radical surgical treatment. This includes circumcision, urethrotomy, cystotomy, the suprapubic removal of stone, diverticula or bladder outlet obstruction, ureterotomy, ureteropelvo-plastic procedures, pyelotomy, ureteronephrectomy, renal resec-

tion or the incision and drainage of perirenal abscess or intrarenal suppuration. These are among the common operations which we have been called upon to perform in the surgical treatment of juveniles with "chronic pyelitis." In some of these patients the infection will be cured while in the remainder it will be controlled. One cannot but be impressed with the unusually satisfactory convalescence from radical urosurgical attack which most of these children make.

SUMMARY: Chronic urinary infection is seldom an uncomplicated disease. The predisposing uropathology as well as the destructive changes in the urinary tract resulting from the infection can be demonstrated only by a complete urologic examination similar in all details to that commonly employed when the patient is an adult. In some instances urinary antisepsis alone will achieve bacteriologic cure; in others conservative instrumental treatment plus antisepsis will accomplish this. In some other cases, radical surgical treatment is demanded which will sometimes result in cure, and will nearly always control the infection and thus preserve life. It has been found that infants and children withstand urologic examination and treatment far better than their elders and for this reason alone should be permitted the advantage of modern urology when they harbor urologic disease.

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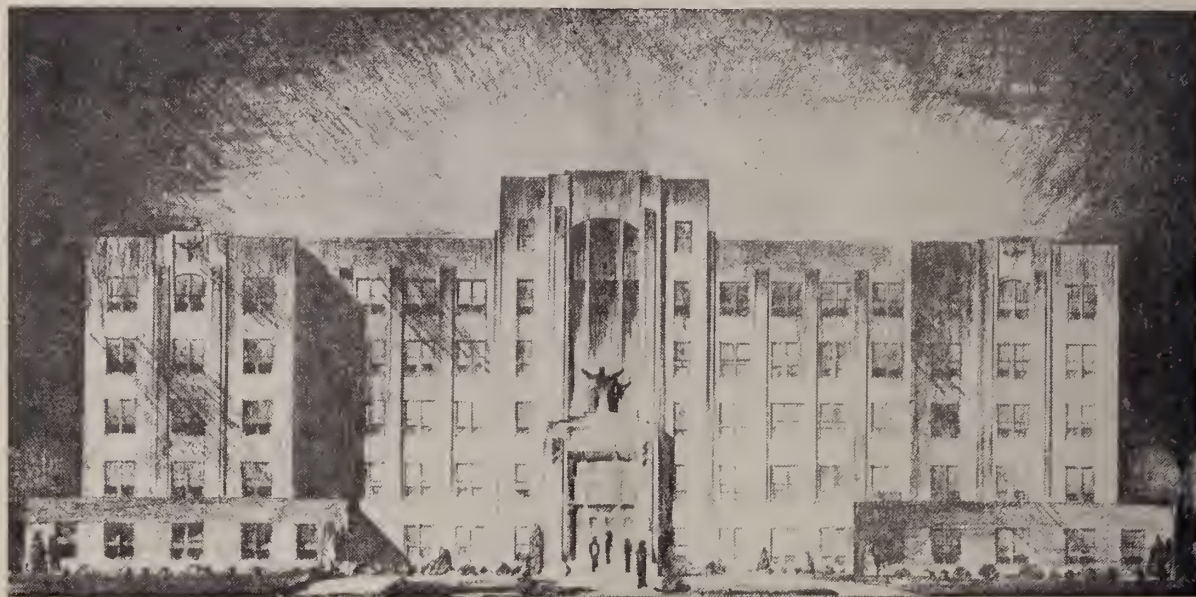
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ARKANSAS TO HAVE NEW MEDICAL BUILDING. CONSTRUCTION OF \$500,000.00 ADMINISTRATION BUILDING AT LITTLE ROCK NOW UNDER WAY



Architects Drawing of Administration Building of the University of Arkansas Medical School now under construction

BY ELIZABETH FLETCHER, M.D.
Little Rock, Arkansas

The above imposing structure, when completed, will house the Medical Department of the University of Arkansas. It will be located on the southeast corner of Twelfth and McAlmont Streets, Little Rock, adjoining City Hospital, with which hospital the Medical School has a 25 year lease for its operation in connection with the school. Its construction was made possible through an allotment of the Public Works Administration of a half million dollars. It is estimated that the construction will require ten months and that the building will be ready for occupancy in the early part of 1935. The building will be two hundred and eighteen feet, six inches in length, and will be approximately six stories high, absolutely fireproof and modern in every way. The outdoor clinic will be housed in the first story and will be thoroughly equipped. The second story will house the administrative offices, library, cafeteria, laboratory, and examination rooms of the department of internal medicine. The third floor will be given over to the departments of bacteriology and pathology and will contain an auditorium capable of affording every opportunity for demonstrations. The fourth floor will be devoted to chemistry and physiology, and the fifth floor to anatomy, histology, and embryology. The sixth floor will be given over to experimental research laboratories with quarters for animals necessary.

The faculty of the school at present consists of eighty-eight members and its student body averages in number approximately 200 each year. Last year the registration at the outdoor clinic was forty-six thou-

sand. The City Hospital contains one hundred and thirty eight beds and is capable of being increased in number to approximately two hundred. Teaching is also done at St. Vincent's Infirmary, Baptist State Hospital, Children's Hospital, Missouri-Pacific and Pulaski County Hospital. This gives approximately eight hundred additional beds for teaching purposes.

HUMBLE BEGINNING

Arkansas' present Grade A Medical School has progressed far since its humble beginning. In the year 1879, the foresighted Trustees of the old Arkansas Industrial University, of Arkansas, thought it necessary to establish a medical department, to be located in Little Rock. Arkansas at that time had no medical school, and the department was designed to afford facilities for the young men of this and nearby states to study the Science of Medicine and its branches without unnecessary expense and distant travel. Up to this time it was necessary for men interested in the study of medicine to go to Pennsylvania, Louisiana, Georgia and other states in order to receive instruction in medicine. The faculty of the university was composed of Dr. P. C. Hooper, President, and Drs. Edwin Bentley, James Dibrell, James Southall, Claibourne Watkins and several others. These men gave their time and education gratis to the institution and the money collected as tuition was used for the upkeep of the school and in assisting worthy students who were unable to pay for their education.

The first session began on October 7th, 1879, and

continued until March 3rd, 1880, being carried on under many difficulties, and having twenty-two regular matriculants, one of whom received the Degree of Doctor of Medicine. These students were largely men already previously engaged in the practice of medicine, and had it not been for the establishment of a college at home, would have never made further attempts to further their knowledge of the principles of medicine, but would have pursued the practice, regardless of consequences. The classes were held in a large and commodious brick structure located between Main and Louisiana, on Second Street, and material for clinical instruction was obtained from the City Hospital under the management of the Ladies' Benevolent Association of the City of Little Rock.

At the beginning of the third session, it was decided to extend the course for a degree over three years, whereas formerly only two years were required. The number of matriculants gradually increased and the clinics became more practical and extensive. In 1887, a new hospital known as the Charity Hospital was established, and this institution was used in connection with the School. In 1890, the present building on Second and Sherman Streets was erected. In 1889, by legislative enactment, the name of the school was changed to the University of Arkansas Medical Department, connected only in name with the University. At the same time the department was made co-educational, women being admitted on the same terms as men, and also about this time the period of study was extended to four years. It was years later, in 1909, under the administration of Gov. George W. Donaghey, that the legislature passed a bill making the school an integral part of the University. However, no state support was obtained at that time.

CONSOLIDATES—RECEIVES LEGISLATIVE AID

In Little Rock there also existed about this time a school known as the College of Physicians and Sur-

geons, established in 1906, fully equipped with all the facilities for conducting a first-class medical school. In 1911, the desire for a united school was evidenced by the merging of the University Medical Department and the College of Physicians and Surgeons. This was done at the request of the Medical Society and the Board of Trustees were unanimously in favor of the action. Dr. J. H. Lenow was made president of the combined school and Dr. J. P. Runyan was assistant president.

In 1912, Dr. Lenow resigned from his position, and was succeeded by Dr. Morgan Smith. Dr. Smith was born in Lawson, Arkansas (Union County). He attended the University of Arkansas in Fayetteville, prior to entering the Medical Department in Little Rock. He attended the Arkansas Industrial University from 1887 through 1889, and graduated on March 5th, 1889, at nineteen years of age. He did Post-graduate work at Tulane University, and began his practice of medicine in El Dorado. He soon came to Little Rock to practice his profession, gradually becoming more interested in Pediatrics. During his first years in Little Rock, he worked for the Rockefeller Foundation for the eradication of hookworm, which operated under the Board of Health.

About the time that Dr. Smith became Dean of the Medical School, the new State Capitol was being finished and the old Capitol was slowly being vacated. Through the efforts of Dr. Smith, the Secretary of State gave his permission for the Medical Department to establish itself in the discarded building. The building at Second and Sherman was becoming much too small, and it was decided to carry on the first two years of study in the old Staate House building, and the last two years at the Second and Sherman Street address, which was now designated as the Isaac Folsom Clinic, named in honor of Dr. Isaac Folsom. The school has continued to occupy these two buildings up to the present time.

In 1913, after a stormy battle in the legislature, the school finally received assistance amounting to \$36,000 for two years. Since that time the amount



DR. FRANK VINSONHALER



DR. MORGAN SMITH

of support has gradually increased.

Dr. Smith continued to be Dean until 1927, in which year he was succeeded by Dr. Frank Vinsonhaler. Since that time, Dr. Smith has been Professor of Pediatrics. He was also outstanding as a representative in the State Legislature, where he always supported the interests of the Medical School. Dr. Smith in 1908 was elected Secretary of the Arkansas Medical Association, and this office was held by him through 1910. In 1911, he was elected President of the Medical Association, and assumed office in 1912. At various times he has served on important committees of the Southern Medical Association. From July, 1920 to July, 1921, Dr. Smith acted as President of the Rotary Club. Some six or eight years ago he received the honor of serving as Surgeon-in-Chief of the Sons of the Confederate Veterans. In 1919 he was given an honorary LLD by the Little Rock College. At present Dr. Smith is enjoying a very quiet life at his home where he has retired from active duties.

DR. VINSONHALER MADE DEAN

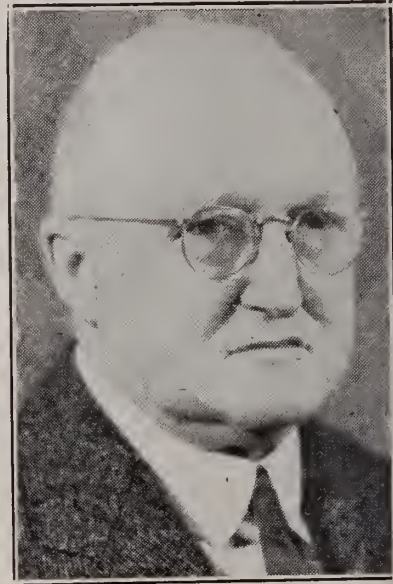
Dr. Frank Vinsonhaler, the present Dean of the Medical School, assumed this office in the year 1927. He was born in Graham, Missouri, in 1864, went to the public schools and later to Northwestern Normal School, Oregon, Missouri. He graduated in 1885 from the College of Physicians and Surgeons of Columbia University. Following his graduation he served as a general practitioner in the State of Nebraska. Later he went to Vienna and to London, where he began to specialize in eye, ear, nose and throat work. Dr. Vinsonhaler came to Little Rock about forty or more years ago and set up his office, and began to take an important part in both the social and medical world. Soon he became a member of the teaching staff of the Medical School, giving instructions in his specialty. He now holds classes in Medical Ethics, History Writing, and History of Medicine.

In the summer of 1917, Dr. Vinsonhaler enlisted in the Medical Corps. He was transferred to France, where for six or more months he was in charge of a Base Hospital 109 at Vichy. He is a member of the Science Club, a purely scientific organization, and is on the Staff of the City, State and Baptist State Hospitals and St. Vincent's Infirmary. In 1925 he served as President of the Community Fund. In the Masonic Order, Dr. Vinsonhaler has received 33rd Degree and has for years conferred the 31st Degree on other Masons. In 1932, Dr. Vinsonhaler was made Deputy of the Supreme Council of this Order. As a social order, he is a member of the XV Club, a very old society of fifteen men. In the Spring of 1934, Dr. Vinsonhaler was made a Trustee of the Donaghey Foundation and as such serves on the Board of the Little Rock Junior College. 1929 received LLD Degree from University of Arkansas, is also a member of Phi Beta Kappa Alpha chapter, Fayetteville.

As an upholder of the Medical School, Dr. Vinsonhaler is best known. For years, he has tried to impress upon the people of Arkansas and other states the merits of the institution. Through his efforts greater assistance has been gained for its upkeep and many doctors have been added to its teaching staff. Since taking charge of the school, Dr. Vinsonhaler has worked for the acquisition of a new building. The Medical School has always been a

Grade A. school, but its progress has been retarded by the lack of equipment and classroom space. Four trips to Washington have been made by the Dean, that assistance from the Government might be secured. Finally after months of work and determination, largely due to the influence of Dr. Vinsonhaler, the Public Works Administration saw fit to allot funds for this building.

Dr. Hugh Gamble



Here is the likeness of Dr. Hugh Gamble of Greenville, Miss., president-elect of the Mississippi State Hospital Association and ex-president of the Mississippi State Medical Association. He is a native of Northeast Mississippi. It feels proud of him. The Gamble brothers, Hugh and Paul, have done much for organized medicine in Mississippi. They are some times spoken of as the Mayos of Mississippi. We do not know all the honors Dr. Hugh has held at the hands of the profession, nor all his medical degrees. He is worthy of any he has held and more. He is a "degree man" whether he has them or not. The State hospital will be in safe hands under his administration.

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The Opinions of Eminent Physicians On the Alcohol Problem

SEALE HARRIS, M.D.
Birmingham, Ala.

It seems worthwhile at this time when there is so much propaganda for the use of beer, wine, whiskey and other alcoholic beverages to give the public the opinions of a number of eminent physicians who have expressed themselves on the alcohol problem.

Dr. Charles Mayo said:

"The only legitimate use for alcohol is in the arts and sciences, and its use in medicine has become greatly restricted, because other less menacing drugs and remedial measures can be used instead."

Dr. Arthur Dean Bevan, a prominent Chicago surgeon, said:

"I want to plead for the united action of the organized medical profession of this country to secure protection by law against the injury that drink is doing to our people, not as a political measure but as the most important public health measure that could be secured. There can be no doubt of the injurious effects of alcoholic drinks on both the physical and mental well-being of our population. The greatest single factor we can control in the interest of the public health of the nation would be the elimination of alcoholic drink. Each member of the medical profession, each county medical society, each state medical society should take an active part in the prop-

aganda against drink."

Dr. Elliot P. Joslin, Clinical Professor of Medicine in Harvard University, in his latest book on diabetes expressed an opinion that is shared by many doctors who think for themselves:

"The pleasure which comes from the practice of medicine has increased materially since the restriction of the use of alcohol in the community and, despite allegations to the contrary, I believe the amount of alcohol consumed is less than 30 years ago.

"I base this upon my experience as a boy with the workmen in my father's factory in a country town, as a student in college and medical school, as a house officer in various hospitals, as a postgraduate medical student in Europe, as a physician attending medical gatherings and as a practitioner of medicine for more than thirty years. If one partakes of alcoholic beverages I think it unreasonable to expect all railroad employees and all chauffeurs to abstain. I believe modern machinery and the automobile will remove the alcoholic.

"A glass of beer contains about as much carbohydrate as the same quantity of milk and as much alcohol as a tablespoonful of whiskey. It lacks the protein and fat of milk. A glass of milk contains 163 Calories; a glass of beer costs twice as much and contains 113 Calories.

"There are few young men, much less young women or young doctors, who in looking for a job or a practice find it an asset to have it known that they drink. I do not want any such working for me."

In a recent address Dr. W. J. Mayo at the Staff

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Meeting of the Mayo Clinic said:

"Three out of ten who take alcoholic drinks, like whiskey and brandy, become addicted to the use of liquor; that is, they become steady drinkers, by common parlance, "addicts." Of course, not all of them become what we term drunkards. But they find it nearly impossible to break themselves of the habit and the result may be deterioration and unhappiness which bear heavily on the family and the family's future.

"The medical men are many whose memories go back to the time not only of the corner saloon, but of several saloons in the middle of the block as well, where the American citizen who so desired could stop to spend his money and drink the shoes and stockings off his children's feet, and then go home to beat his wife. This was called an expression of personal liberty.

"It has been stated that during the period of Prohibition, more alcohol was consumed, peddled about as bootleg liquor, than before the Volstead Act was passed. For those of us who remember the old saloon days when a town of 10,000 had from fifteen to twenty saloons open for business from five o'clock in the morning to midnight, with two or three bartenders, it is a little hard to believe that peddling bootleggers could turn loose the same amount of liquor in a community, at least as far as the common man is concerned, as did the saloons. If this were the fact, certainly the liquor-cure institutions, which fattened off the man who was trying to overcome his infirmity, would not have disappeared so completely from the scene of action.

"The 70 per cent of drinkers who do not become addicts in the sense that we ordinarily understand the term, as well as the addicts, sometimes develop changes in the liver and the vascular and nervous systems later in life, which we have reason to believe are a late result of alcohol.

"The medical man faces the extraordinary advances which day by day make medicine the most fascinating of all the professions or occupations and his responsibility to the people, because of the nature of his calling, is greater than that of the worker in any other field. Can he, of all men, afford to take a 30 per cent chance of becoming an alcoholic addict?"

THE RELATION OF BEER AND WHISKEY TO AUTOMOBILE ACCIDENTS

If for not other reason than to make the roads safe for sober people, right thinking people should demand the enforcement of laws against the sale of alcoholic beverages including beer. The number of automobile accidents in Birmingham, Alabama has increased 100 per cent in the last year since the breaking down of the prohibition laws. A recent report from Washington City shows that the automobile accidents in that city has been increased more than 100 per cent since the sale of liquor has been legalized.

In a recent number of the Journal of the American Medical Association, its Berlin correspondent described the frightful increase in automobile accidents in Germany attributable to alcohol. Germany is the beer drinking country that the anti-prohibitions are constantly holding up to us as the ideal of temperance.

Aschaffenburg's experiments showed that with persons under the influence of even very small doses

of alcohol "the responsive movement reaction period" is disturbed and below the normal—often premature and constitutes a false reaction—"judgment comes limping along after the hasty action." This accounts for many automobile accidents. The man who has taken even one drink of whiskey, or one glass of beer, is not as safe an automobile driver as when he has not taken any alcohol.

Dr. Richard Cabot, Clinical Professor of Medicine, Harvard University, says the moderate drinker is the most dangerous person at the wheel of an automobile. Dr. Cabot's comments on drinking and automobile accidents should be read by every man who takes even one drink and then drives an automobile.

"Probably more serious than any of these effects of alcohol is the number of automobile accidents due to the clumsiness and recklessness of those ordinarily called "drunken drivers" although their drunkenness has only reached the stage which makes them careless and unskillful and may have been produced by only one or two cocktails. The person has no idea he is drunk and would not be recognized as such under ordinary conditions. There is no safety for children on our highroads until all those who drive automobiles can be prevented from taking a drink within six hours of the time when they go on the street to drive.

"Of course, there is no possibility of this except under prohibition. It should be emphasized that these automobile accidents are due to the moderate—what is ordinarily called temperate—use of alcohol in amounts that would not disturb a man's speech or power to walk. It is noticeable in no way until it comes to the handling of such a machine as an automobile which demands quick and accurate cooperation of eye and hand, the accurate coordination which is upset even by a moderate and temperate use of alcohol. Temperance is thus more dangerous than excessive drinking as a cause of automobile accidents. The excessive drinker doesn't usually drive when he is drunk. There is no hope, therefore, of decreasing automobile accidents by working for temperance. Only

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abstinence can make us safe."

BEER

Dr. Clyde Brooks, Professor of Physiology of the Louisiana State University, recently translated an address by Dr. Bunge, a celebrated German pharmacologist. The following is Dr. Brooks' translation of Dr. Bunge's statement regarding beer:

"I must emphasize in this connection that beer is the most injurious of the alcoholic drinks, because no other is misused in such great quantity, in order to benumb boredom.

"The Philistine (pedant) is always horrified only when a man becomes a thief or a murderer because of brandy (or whiskey) drinking. That thousands by beer are made stupid morons, or dirty bums, leaves the Philistine cold and unconcerned. Beer is the worst of all the alcoholic drinks because it is the most seductive. Whiskey drinking is regarded by all classes of people as disgraceful, but heavy beer drinking is the boast of the intellectual elite of our nation (Germany).

"In no other drink do we see the habit so soon formed as with beer, and no other kills so soon the appetite for normal wholesome food, and uninjurious enjoyable dainties. No other drink leads to such intemperance. The defenders or advocates of beer beg for its favor that it be regarded as the same as nourishment. And we must admit that beer does contain a certain amount of carbohydrates—(dextrin and sugar). But carbohydrate is just the very material that most persons do not lack, but of which they already eat an overabundance. There is, there-

fore, no reason to buy this most expensive form of carbohydrate to add it to the diet.

"For the favor of dilute alcoholic drinks—beer and wine—they make the further plea; that they aid digestion. As a matter of fact, we know that the opposite is the case. Many experiments on man and animals, especially with the aid of the stomach pump, and direct observation on persons with gastric fistulae, have shown with unanimous agreement that moderate doses of beer or wine give us very considerable slowing and injury on digestion.

"That the moderate use of alcoholic drinks is not only entirely useless, but is highly injurious is further proven by the English statistics on mortality conditions, which show the average length of life for the total abstainer is definitely much longer than that of the moderate drinker."

A voice crying in the wilderness against the evils of alcoholism in Germany was the prophetic address in 1902 on "Dangers in the Use of Beer" by Dr. Hugo Hoppe, a distinguished neurologist of Konensberg, Germany. Dr. Hoppe surely described the ruling classes in Germany, including the officers and soldiers of the Imperial Germany Army when he said:

"Beer makes those who drink it stupid and heavy, and it destroys the power and buoyancy of mind, blunts the higher feelings and interest and causes the gradual giving up of aspirations and ideals. Enthusiasm and devotion dwindle to give place to self-indulgence, indolence, boasting and egotism."

One cannot say that all Germans drink beer because there is a small minority in Germany who are

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fighting the evils of alcoholism. Neither can it be said that all men, or all Germans, who drink beer are "stupid, boastful and arrogant," because certainly some of the finest gentlemen that ever lived were German physicians who drank beer.

There can be no doubt that beer drinking does cause the degenerative diseases, i.e., of the brain, arteries, heart, liver and kidneys; and if one values health and long life, he will not fall for the propaganda that beer is a harmless, healthful drink.

GENERAL GORGAS' VIEWS ON THE EFFECTS OF ALCOHOL IN INCREASING TROPICAL DISEASES

In the early months of the World War, before going to France, I had the privilege of serving on the Staff of Surgeon General Gorgas, of whom Sir Auckland Geddes, Ambassador to the United States from Great Britain, said: "When the heroes of all wars have been forgotten, Gorgas will be remembered for his work in the sanitation of the tropics." President Taft said: "The sanitation of the Canal Zone made possible the building of the Panama Canal, the greatest industrial undertaking in our history." On one occasion just after the ten mile prohibition zone around Army training camps had been established, General Gorgas instructed me to prepare a memorandum setting forth his views on prohibition for an interview he was giving to the press. In giving me the data which he desired used in the interview General Gorgas said:

"In the sanitation of Panama we found that malaria, dysentery and other tropical diseases occurred most frequently among laborers who were intemperate in drinking. As an aid in the prevention of diseases among our laborers, we decided to prohibit the sale of alcoholic beverages on the Canal Zone. In order not to arouse too much resentment among the employees prohibition was established in ten mile sectors at a time. It was noted that after the sale of alcohol was stopped in the first ten mile sector the amount of drinking and the incidence of disease among employees was decreased almost immediately. It was also observed that the number of days lost by laborers was materially decreased and their efficiency while working was increased. The laborers could send to Colon a few miles away and get all the whiskey they wanted, but because it was inconvenient to get it, they drank much less. The decrease in drinking and the improvement in disease morbidity became more marked as the prohibition areas were extended. In my opinion the establishment of the ten mile prohibition zones around Army Cantonments will minimize drinking among soldiers in training. Likewise, prohibition, even if it does not prohibit completely, by making it inconvenient to get alcoholic beverages will reduce the evils of intemperance."

THE SOLUTION OF THE ALCOHOL PROBLEM

The good people of the United States should study the effects of beer and other alcoholic beverages on the human body as well as the recent history of beer and wine drinking countries; and each man and woman and boy and girl who thinks should refuse to drink beer and wines, that not only are habit forming and character destroying in themselves, but they often lead to the use of stronger drinks that cause more rapid degeneracy in those who are unwise enough to use them to excess. Each man and woman can do

his or her part in making our nation great and prosperous by abstaining from alcoholic beverages of all kinds by otherwise keeping himself fit for whatever may be his vocation in life.

The propaganda of the brewers and the distillers, that many good people have fallen for, is that prohibition is responsible for crime. People who fall for such propaganda do not think things through. It is whiskey and beer—not prohibition—that is wrong; and the American people should have the sense and the courage to rise up and drive out the alcoholic beverages that are harmful and habit forming; and which used to excess undoubtedly result in degeneracy and death.

Woman's Auxiliary

TO THE
MISSISSIPPI STATE MEDICAL ASSOCIATION

Mrs. Dan J. Williams, Editor
Gulfport, Mississippi

Dr. and Mrs. Geo. Riley were coast visitors a few days last while Dr. Riley being here on business of the State Board of Health.

Mrs. E. D. Gay, mother of one of our members, Dr. Elmer Gay, died here last week and was taken to her home in Rockford, Ill., for burial. Dr. Erma Gay of Gulfport accompanied Mr. Gay and the remains. She will be gone two or three weeks.

MEDICAL AUXILIARY ENTERTAIN HUSBANDS AND STUDENT NURSES

The Medical Auxiliary to the Harrison-Stone-Hancock Counties' Medical Society entertained their husbands and the student nurses of the Kings Daughter's Hospital in Gulfport and the Bilvin Hospital with an old fashioned picnic at "Shorecrest" a delightful picnic ground on Biloxi river on the evening of July 26. Swimming and boating were enjoyed by most of the party and the bountiful supply of good eats as a finale of this exercise was thoroughly enjoyed. Sixty-four were seated at the long picnic table erected by a Gulfport citizen who owns a camp out there which included 16 nurses. Many of our "men" were unable to go because sick patients or illness in their families. It is the plan of the wives to make this an annual affair. All such getting togethers tend to cement friendships and make new. It was indeed a happy affair.

DR. E. C. PARKER VERY ILL

President E. E. Parker, of Gulfport, who has been very sick for two weeks with dengue fever is thought to be some better at this writing. He became exhausted following two major operations on the hot Monday morning of July 23 and continued to grow steadily worse for several days. His friends along the coast as well as many up state and Louisiana have been most solicitous about his condition.

FOR SALE—Guinea Pigs, all sizes, prices reasonable, prompt shipments. Write Mrs. Fannie G. Green, Booneville, Miss.

Glaucoma

DR. H. J. KELLUM
Tupelo, Miss.

In considering the subject of Glaucoma it is hoped to give you something that will help you in the handling of this dread condition and that something will be brought out that will aid us all. It is known that glaucoma is inexorable in its production of blindness if left untreated, so it must be admitted that the subject has vital interest to all medical men.

It might be well to briefly review the anatomy of the eye. The eye is spherical except anteriorly where there is an area of shorter curvature known as the cornea. There are three tunics of the eye: the retina, the inner and nervous element; the choroid, the middle and vascular element; the sclera the outer and fibrous protective element. At the limbus the fibrous tissue becomes clear and more rounded to form the cornea, also a containing coat. So we speak of the sclero-corneal coat as the inelastic tunic of the eye, and the shape of the globe is maintained by the hydrostatic pressure of the content of the eye, the aqueous and the vitreous within this tunic. A normal eye has a fairly definite consistency to feel. An increase in pressure in the eye is recognized as being more firm or harder; a decrease in pressure as being less firm or softer. This intraocular pressure is measured by an instrument known as a tonometer and the scale converts our reading into M.M. of Hg. A "normal" is fixed for each type of tonometer and technique. It is believed that the fluid portions of

the vitreous and aqueous are secretions or formations of the gland of the ciliary body and that this fluid drains chiefly by way of the angle between the posterior surface of the cornea and the anterior surface of the iris, through the trabeculum and into the canal of Schlemm. The regulatory mechanism is not known, but on the above ideas is glaucoma handled.

What is glaucoma? It is essentially a condition characterized by increased intraocular pressure or the results of increased pressure. The Greek terms from which glaucoma is derived connote "green tumor."

While glaucoma is not a frequent disease it is attended with such dire results and its proper handling means so much to the patient, its recognition is of vital importance. It is estimated that glaucoma constitutes about 1% of all eye diseases. In a three months period in the OP. Depart. of the Eye, Ear, Nose and Throat Hospital at New Orleans, I found fifteen cases in five-hundred-ninety-four admissions, or nearly 2½% of all eye diseases. Considering that the eye represents a small portion of the general practitioner's field of activity it will be seen that glaucoma is an infrequent finding.

Diagnosis of glaucoma is not difficult in the well marked cases where one gets a history of loss of vision, rain-bows around artificial light, and pain in and behind the eye, and over the brow and will find injection of the conjunctival and ciliary vessels, dilated pupils, and at times a green reflex, hence the name, anesthesia of the cornea, cloudiness of the cornea, shallow anterior chamber, a feeling of hardness or increased tension by tonometry, small arteries and dilated veins of the fundus, pulsation of the ar-

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teries and cupping of disc. In cases giving a history of glaucomatous attacks, but in a state of quiescence one resorts to field studies for aid. Glaucoma simplex has fairly constant physical findings in the dilated pupil, strutted ciliary veins and above all cupping of the disc—with or without atrophy. In these cases the only complaint is failing vision. Look at them carefully before saying "Cataract and nothing is to be done until you are so blind you cannot see hand movements, then have cataracts removed." To do this delays proper treatment too long for any treatment to avail. So then to properly diagnose a case of glaucoma requires the ophthalmoscope, tonometer, perimeter and tangent screen and knowledge of their uses.

The prognosis of untreated glaucoma is blindness, and in the treated cases there will be some loss of function. The immediate recognition of the condition and prompt beginning of treatment make for a better prognosis in as much as the nerve fibers of the retina will stand only so much pressure for so long a time before pressure necrosis and blindness result.

Treatment in a given case depends on whether one is dealing with a primary or secondary glaucoma. Primary glaucoma has no assignable cause and is therefore a disease per se. One has medical and surgical means at his disposal. One of the miotics, pilocarpine or eserine will usually reduce tension by contracting the pupil, enlarging the drainage angle and promoting drainage by way of the Canal of Schlemm. Surgical efforts attempt to make a permanent filtration scar. The scleral iridectomy and Elliott trephine are most generally used. In the secondary glaucoma one is dealing with plus tension from some other cause, as iritis with adhesions, or trauma, accidental or surgical or intumescence of the lense. Here treatment is varied to combat the cause.

The differential diagnosis between iritis with adhesions and inflammatory glaucoma, each having almost diametrically opposed therapeutic attack, gives the ophthalmologist one of his most trying problems at times. An error may mean blindness to the patient. The question of atropine or eserine is one hard to settle.

In the fifteen cases mentioned above eleven were considered primary and four secondary; seven were females and eight males; six colored and nine white; the age range was from two to seventy-seven. From this it is apparent that age, sex, color do not render glaucoma impossible. Two of the cases were congenital.

I have not tried to go into detail as to the theories of the causes of glaucoma, the classifications, etc., but have rather tried to show the seriousness, frequency and problem of glaucoma and to admonish and warn each of us to be constantly alert that those trusting us for advice may not necessarily lose their most priceless possession—their sight.

DRS. O. S. McCOWN — O. S. McCOWN, JR.

GYNECOLOGY—UROLOGY—SURGERY

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The Effect on the Human Body of Changes in Barometric Pressure *

H. B. COTTRELL, M.D.

Director Sunflower County Health Department

The presentation of a paper of this type is more for my own satisfaction than for the thought that any practical application could be obtained for every day practice. I was fortunate in having the opportunity of working with numerous cases of Caisson disease during the construction of the Mississippi River Bridge at Vicksburg, and so my interest was aroused to the extent of reviewing the not too abundant literature on the subject. This paper is the gratification of a desire to present before a medical meeting of this sort some of the information obtained through personal observation as well as through study.

The two diseases caused by extreme variation of the barometric pressure are: (1) Mountain sickness and; (2) Caisson disease, or compressed air illness.

Mountain sickness could be more aptly called aeroplane sickness now that air craft travel is becoming more common and new altitude records are being established. Mountain sickness can be defined as that condition due to ascent to high altitudes of persons accustomed to living under the pressure of practically an entire atmosphere (760 m.m. of mercury) Paul Bert, as early as 1878, laid the foundation for our knowledge of the physiological effects of rarified atmosphere. He was the first to advance the significant fact that it was not the percentage of oxygen alone that counted or the barometric pressure alone but the product of these two.

Barcroft and his associates state that the principal factors in acclimatization are; (1) an increase in pulmonary ventilation which results in an increased alveolar oxygen pressure, (2) a shift in the oxygen dissociation curve which increases the capacity of the hemoglobin for oxygen, and (3) an increase in the number of red blood cells and in the hemoglobin without change in the color index.

The symptoms of Mountain Sickness are headache (usually frontal), vertigo, malaise, mental dullness, abnormalities of vision and hearing, epistaxis, palpitation and muscular weakness. Dyspnea is common in aviators flying above 12,000 feet and an altitude of 25,000 feet is considered the limit to which an aviator can safely go without the use of supplementary oxygen.

The administration of oxygen affords prompt relief for any of the above symptoms caused by oxygen want. Rest should be instituted for all fatigue and psychic disturbances often incurred by aviation.

Caisson disease, or compressed air illness, is caused by rapid decompression of individuals who have been at work in tunnels, caissons or at considerable ocean depths. This disease thus comes under the classification of true occupational disease due to physical agent.

Compressed air illness due to diving is the oldest form of the disease, the art having been known ap-

*Read before the Delta Medical Society, Cleveland, Miss., April 11, 1934.

JACKSON, MISS.

trophic ulcers appear. (3) In a third class the symptoms develop from half an hour to three hours after decompression. They consist of severe pains about the joints (the "bends" of the Caisson worker). They generally pass off in a short while but can be at once relieved by a return to high pressure and then a slow decompression.

Fleeting pains are felt in some part of the body shortly after decompression by most Caisson workers who endure anything like plus two atmospheres pressure. The pains may be slight and transient or severe and last several days. In fact the pain may be so severe as to cause the individual to writhe in agony and throw his body in all sorts of positions in an attempt to obtain relief. This writhing and twisting has led to the name "bends" by which the workmen call the illness.

Dyspnea or "chokes" as the workmen call it, resembles asthma in appearance, and is probably due to a certain amount of air emboli in the pulmonary vessels with consequent oedema of the air tubes.

The vertigo occurring in many cases may be caused by air bubbles or hemorrhage into the labyrinth or air bubbles in the brain.

Abdominal pain is a symptom which is justly feared by compressed air workers. It often occurs with lesions of the spinal cord and is analogous then to girdle pain. In many of the most severe cases observed during the work at Vicksburg abdominal pain was a symptom. With simple abdominal pain one can never feel sure that a serious case is not threatened.

Cases showing paralysis point to gas bubbles in the brain or spinal cord. If the brain is affected the patient becomes paralyzed, and if the spinal cord is touched we have disturbances of motion or sensation, or a combination of the two. Hill states that in all of the cases of paralysis observed by him there was also an inability to pass urine. He also observed that the sensory nerves seemed to suffer much less than the motor nerves.

Great progress has been made as regards prophylaxis by the work of Sayres, Yant and Hilderbrand of the Bureau of Mines. They have conducted a number of experiments with animals and men breathing a synthetic atmosphere of helium-oxygen mixture under pressure. Helium is substituted for nitrogen because it has been shown that helium not only has the advantage of being less soluble than nitrogen but also has the advantage of diffusing more rapidly in the body fluids and tissues, which results in rapid elimination of the gas from the tissues during decompression. By the use of this mixture it will be possible to carry compressed air work to a much higher pressure without the danger of caisson disease.

If infectious diseases had as wonderful a specific as caisson disease the practice of medicine would be revolutionized. It is, to say the least, awe inspiring to see a man paralyzed from the waist down and probably unconscious carried into the medical lock, the pressure raised and within five (5) minutes to see this same man get up and walk around as if nothing had happened to him.

It might be well to state here that a medical lock is a chamber, usually of a cylindrical shape and about the size of a railroad tank car. It is provided

with air tight doors and small observation windows made of thick glass. The valves controlling pressure may be opened from the outside or inside of the lock.

The most efficient method of curing a case of compressed air illness is to put the patient immediately into the medical lock and quickly raise the pressure to a point equal to that under which he has been working. The pains will often be relieved by a lower pressure but better and more lasting results are obtained if the pressure is raised to the working pressure. Decompression is then begun, the full time for decompression being at least twice as many minutes as there were pounds of pressure. The best results are obtained when the pressure is reduced rather quickly for the first few pounds from which point decompression is carried out very slowly. The patient is instructed to exercise as vigorously as possible during this time. Failure at times of recompression to cure can be explained by assuming that the gas emboli have done permanent damage to the tissues before treatment has been instituted. After such permanent damage the injured parts should be treated just as any mechanical injury of a similar nature due to physical agents.

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Migraine*

IRA B. BRIGHT, M.D.
Greenwood, Miss.

Today, the word "migraine" often is used to designate any type of recurrent headache of moderate or severe nature. Aware of this, R. M. Balyeat in his monograph on migraine writes: "Typical migraine refers to paroxysmal attacks of hemicrania (occasionally bilateral headache) associated with sensory and motor disturbances. These motor and sensory symptoms, as well as the crossed hemicrania, gastric and cardiac inhibition and vasomotor changes indicate affection of the cerebral cortex. Thus migraine may be defined as, a paroxysmal disease (symptom complex) characterized by hemicrania (also bilateral headaches) and symptomatic evidence of cortical involvement. Headaches due to allergy may appear as migraine with evidence of cortical affection, or may be hemicrania without sensory, motor or vasomotor phenomena. The latter may be due to inflammatory changes, pressure or toxemia resulting from allergic reactions in the nose or sinuses. All migraine is headache, but all headache is not migraine. The defined use of the word is made because the cortical features differentiate migraine from other headaches."

In the United States there are approximately eight million people who sometime in life suffer from migraine. But those physicians practicing in farming communities may see little of it. For it is not a disease of the farmer or day laborer, but is most common among teachers, business men, and students. In the experience of Balyeat both sexes suffer equally as often. The women are more prone to seek attention and thus appear to form the majority of such patients.

Migraine originates most frequently during the first and second decades, and lasts well into middle life. The period during which the patient is subject to attacks is thus a long one.

In considering the symptomatology of migraine it is well to divide the entire attack into at least three stages. There is usually the prodromal stage, the period of aura, and then the onset of pain.

During the prodromal period, the patient may experience one or more of the following symptoms; a period of depressions or a period of hyperactivity, an abnormal appetite, unusually profound sleep or abdominal distress associated with canker sores and diarrhea.

In the classical case the patient then enters the state of aura in which there may be vertigo, visual disturbances, auditory symptoms, sensory disturbances such as paresthesia of face, hands, or feet. Vasomotor changes occur and pallor or redness on the affected side is seen. There may be mental confusion. Photophobia and paresis are not uncommon.

Pain then begins and varies in location and severity. It may become apparent at any time during the day or night and is frequently preceded by and associated with hyperesthesia. There may be hemic-

rania or a bilateral headache, usually the former. And all of the symptoms mentioned under the previous stages may be absent in any one attack. Nausea and vomiting are frequent. The pain is most often very severe.

The average duration is one to two days, but may be as short as a few minutes. Aborted attacks occur.

* * *

In making a diagnosis of migraine the definition of the disease must be always in mind. The cortical features differentiate migraine from headache. When this is kept in mind and a detailed history is obtained no difficulty in diagnosis will be experienced. The history must include the following points:

- a. The presence of other allergy in the patient.
- b. The past history with special reference to atypical colds, eczema, urticaria, asthma, etc.
- c. The family history with reference to other allergic diseases as well as migraine.

Other types of disease due to allergy will be found in the family tree and often in the patient.

It is now generally accepted that a patient transmits from one generation to another only the ability to become sensitive and not the specific state. It seems that the type of sensitivity the antecedent suffered from has no relation to the type the descendant has. A father may have asthma due to a specific sensitivity to one substance and his son may have migraine due to a specific sensitivity to another substance.

Of the numerous theories of the etiology of migraine, the allergic theory seems by far the most plausible. This theory is based on an assumption that the patient has become sensitive to foods and that this sensitization is localized in the cortex. The atopic

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*Read before the Delta Medical Society, Cleveland, Miss., April 11, 1934.

substance in the blood comes in contact with this sensitized area and vasodilation of the vessels takes place. Edema results and the migraine syndrome is seen. Some investigators believe that vasoconstriction occurs.

Vaughan states that one-third of all cases of migraine are allergic in origin. While Balyeat feels that the great majority of cases is due to specific sensitization to some substance. Therefore, in the treatment of migraine it is well for the general practitioner to place the patient on an elimination diet such as Rowe has devised. It may be necessary to keep this diet for well over six to ten weeks. And thus due care must be exercised with the vitamin and mineral content. In the prodromal stage dietary restrictions are said to be of value in many cases.

Balyeat lists the following in order named as the most common offenders: milk, wheat, egg, apple, onion, legumes, nuts, beans, chocolate, fish, beef, pork, shell sea-food, etc.

During the headache any of the nonhabit-forming analgesics may be used in conjunction with sedatives or soporifics. Balyeat states that Cibalgine given intravenously very slowly is useful. Codeine and morphine are to be avoided unless absolutely necessary.

Nonspecific protein therapy may be tried, but should never take the place of a thorough search for the causative factors.

* * *

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A. M. A. Gives Principles for Health Insurance*

BY ALDEN B. MILLS

Managing Editor, The Modern Hospital

Although the nation's newspapers heralded the action of the American Medical Association meeting in Cleveland last month as a condemnation of health insurance, a careful reading of the principles adopted by the association leads to the opposite conclusion.

It is true that the association rebuked the American College of Surgeons for its endorsement of health insurance on the eve of the convention. The rebuke, however, was apparently directed primarily at the "presumption" of the college rather than at health insurance itself.

In presenting its statement of ten principles the A. M. A. declared that "if it is determined in any community that some experiment to change the method of administering medical service is desirable, observance of the principles adopted will remove many of the 'disturbing influences' from such an experiment. In all such experiments attention must be sharply focused on the quality of medical service rather than primarily on any other factor."

The principles are eminently reasonable and appear to be in entire harmony with the principles adopted in February, 1933, by the American Hospital Association for group hospitalization.

The way now appears to be open for local hospitals and local medical societies to make "experiments to change the method of administering medical service" provided they follow the formula adopted in Cleveland which is as follows (black face not in the original):

Ten Principles of A. M. A.

1. All features of medical service in any method of medical practice should be under the control of the medical profession. No other body or individual is legally or educationally equipped to exercise such control.

2. No third party must be permitted to come between the patient and his physician in any medical relation. All responsibility for the character of medical service must be borne by the profession.

3. Patients must have absolute freedom to choose a legally qualified doctor of medicine who will serve them from among all those **qualified** to practice and who are **willing** to give service.

4. The method of **giving the service** must retain a permanent, confidential relation between the patient and a "family physician." This relation must be the fundamental and dominating feature of any system.

5. All **medical** phases of all institutions involved in the medical service should be under professional control, it being understood that hospital service and medical service should be considered **separately**. These institutions are but expansions of the equipment of the physician. He is the only one whom the laws of all nations recognize as competent to use them.

6. **However the cost of medical service may be**

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distributed, the immediate cost should be borne by the patient able to pay at the time the service is rendered.

7. Medical service must have no connection with any cash benefits.

8. Any form of medical service should include within its scope all qualified physicians of the locality covered by its operation who wish to give service under the conditions established.

9. Systems for the relief of low income classes should be limited strictly to those below the "comfort level" standard of incomes.

10. There should be no restriction on treatment or prescribing not formulated and enforced by the organized medical profession.

Deal Primarily With Medical Aspects

All of these principles except the sixth and the ninth deal entirely with the medical and professional aspects of health insurance and not with the economic. The sixth as far as it affects hospitals would simply mean that patients admitted to hospitals should pay promptly all their "immediate" charges. Thus if they are insured but are given service not covered by the insurance contract, they should make payment for this extra service promptly. Of course if the insurance plan covered the entire hospital bill there would be no "immediate" charges.

The ninth principle applies to relief rather than to insurance and is clearly desirable.

The A. M. A. is to be congratulated upon having formulated a sound workable set of principles under which local groups can now initiate carefully thought-out experimentation. Obviously this is wiser than at-

tempting hurriedly to map out a program in minute detail. It is unfortunate that the action was misunderstood by the press.

Book Review

"Diseases of the Eye," in its fourteenth edition, by Charles H. May, is a book that should no longer be deprived a place among your most referred to and valued books. Just this month it is out in its up-to-date edition, illustrated in detail, taking up every common disease of the eye simply and concisely. Treatment is discussed fully, and eye operations are explained step by step.

The work comes in a conveniently usable size, with the opening chapters giving a lucid discourse on examining the eye and eyelid, then it launches into the external diseases of the eye and changes in the fundus. It is written primarily for the practitioner, whose task it is to recognize affections of the eye in connection with other affections of the body, particularly the nervous system.

"Diseases of the Eye" is published by William Wood and Company, Baltimore, Maryland. The price is \$4.00.

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DR. A. G. PAYNE

Rites for Dr. Payne Will Be Held Today

GREENVILLE, Miss., Aug. 1.—Funeral services will be held from St. James Episcopal Church tomorrow for Dr. A. G. Payne, 66, prominent in southern and national medical circles, who died Tuesday night of a heart attack at his home here.

The services will be conducted by Bishop T. D. Bratton of the Episcopal Diocese of Mississippi and by the Rev. Phillip Davidson, rector of St. James Church.

A native of Lowndes County, he graduated from Mississippi A. and M. College and from University of Kentucky Medical College at Louisville. He was married 40 years ago to Miss Martha Wood of Columbus, and 35 years ago they moved to Duncan and 30 years ago to Greenville.

Dr. Payne was president two years ago of the Mid-South Post Graduate Medical Assembly and it was during his administration that the assembly was changed from the former Tri-State Medical Society. He was a member of the American Medical Association, American College of Surgeons and was prominently identified with the Mississippi Association and

Delta Medical Society.

He was a post graduate of the New York Polytechnic and was studying abroad when the World War broke out, returning then to the United States.

Dr. Payne was an executive councilor of the American Association for the Study of Goiter. For more than 30 years he had been a vestryman of St. James Episcopal Church here and for the past four years senior warden.

He is survived by his wife, one daughter, Miss Ethel Payne, and two sons, Dr. Virgil Payne, Pine Bluff, Ark., and William Payne, Greenville. Four sisters also survived. They are Mrs. Julia S. Taggart, Lake Village, Ark.; Mrs. Alma Stewart, Memphis; Mrs. George Fotenos, St. Louis and Mrs. Bland I. Patterson, Los Angeles, Cal.

The late Dr. A. G. Payne of Greenville. He was deeply devoted to the practice of medicine and surgery. He was a persistent student. He studied that he might relieve the suffering and that he might add something to scientific medicine. He was steadfast and was ever at the front in the promotion of organized medicine. He was a lover of home. He was devoted to his family. He loved his town and his state. He was a stalwart citizen. He was a lovable

and a loyal friend. He served well as president of the Mid-South Post Graduate Medical Assembly. He was an outstanding leader in organized medicine in his state. His influence will live down the ages of the profession.

CROSSING THE BAR

By Alfred Tennyson

"Sunset and evening star,
And one clear call for me,
And may there be no moaning of the bar,
When I put out to sea.

But such a tide as moving seems asleep,
Too full for sound and foam,
When that which drew from out the boundless deep
Turns again home.

Twilight and evening bell,
And after the dark!
And may there be no sadness of farewell,
When I embark;

For tho' from out our bourne of time and place
The flood may bear me far,
I hope to see my Pilot face to face
When I have crossed the bar."

Doctor—Tell your wife not to worry about her being a little deaf. It is merely a sign of advancing years.

Husband—Doctor. would you mind telling her yourself?

Dr. E. P. Odeneal

Sad, indeed, is the duty of this writer to speak of the death of this close neighbor and intimate friend of over twenty years here on the Mississippi Coast; nevertheless it offers the opportunity and privilege of testifying to his learning, his good citizenship, his fine charities innumerable, his personality and his perfect family relationships.

Graduating in medicine in New Orleans, where his young hopes were born, and dying there where all died with him after a long and useful life, he took post graduate courses in this country and in Edinburgh. He became physician for enterprises in Central America, and there did excellent work amid primitive surroundings. He practiced for years in Greenville, and thence came to the Mississippi Coast and built a beautiful home on the Beach, on a Coast he ardently loved, and where, except the usual and inevitable sorrows that visit all men, he has been most happy with a beloved and devoted wife. Being himself an unexampled and unselfish friend, he lived amid an ever widening circle of affectionate and appreciative friends. Being learned in his profession, which he afterwards limited to treatment of the eye, he had great success. Being public spirited, he invested his means in every public and business enterprise, and gave liberally to churches and other charities. The number of his benefactions to the poor in his particular scientific work never will be known. If his body had been as strong as his spirit, his heart, his brain, he would have survived this last struggle. Pa-

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triotic in the extreme, he early volunteered for service with the American Army and did excellent service in France on the battlefield. At his death he was giving fine service at the Veterans' Hospital at Gulfport and the Veterans' Facility at Biloxi. His endeavors were always his best; the results could not have been better. Dr. Odeneal was beloved by the numerous members of the family of his dear wife and his father's family, and by all who enjoyed his friendship. Even had he been a failure instead of the full success that he was, he could have philosophized: "I am not a failure, because everybody loves me by whom I wished to be loved." And he would be right in saying this. He was as gentle as a woman, with a woman's feeling and sentiment. He loved flowers, and had a most artistic talent for beautifying everything with which he had to do. His home places have been marvels of orderly and luxuriant planting, and no man loved home better or did more for it. He loved company, and was a most gracious host, a most interesting conversationalist, and had a charming humor—which never had the sharpness of wit which laughs at, rather than with one.

This death has shocked the community; it has left friends and family bereft, loaded with deep sorrow; it has taken from the community an accomplished physician and splendid citizen. The grave at Jackson may hold all that remains of the body, but everyone he knew and every place he had been, testify with fervor that his life remains as an example of a fine Mississippi gentleman.—Herald

Practical Points in the Treatment of Summer Diarrhoeas*

EUGENE ROSAMOND, A.B., M.D.
Memphis, Tenn.

Practically two general types of intestinal upsets confront us these hot days.

First: Acute intestinal intoxications.

Second: Bacillary dysenteries.

Gastro-enteritis, summer diarrhoea, cholera infantum, auto intoxication, etc., are digestive upsets or food diarrhoeas, and vary in severity and in prominence of various symptoms, all degrees of the process being met with and influenced by hot weather, the resistance of the patient and many other factors. The mildest types have vomiting, frequent stools, some fever and are not much sick.

Severe intestinal intoxications are characterized by sudden onset of vomiting and purging, rapid dehydration and varying degrees of danger. Here our whole problem might be summarized as an attempt to supply water as fast as it is lost. In no other condition do we see such rapid loss of weight. There is no use to here draw the familiar picture of extreme dehydration or of the type with nervous symptoms in which we have twitchings, coma and convulsions.

The one thing we know best about these cases is that these children are being starved of food, water and salts. The child's tolerance to food is greatly reduced and a period of starvation is necessary. We

used to make this two or three days. This was a mistake—twelve to twenty-four hours is long enough.

Next we must supply water. This is given ad libitum by mouth but vomited frequently almost as fast as it is given, so that we must resort to subcutaneous, intraperitoneal or intravenous routes. Because large quantities can be given, the intraperitoneal route is preferable. That salts may be supplied sodium chloride (normal saline), Ringer's solution or Hartman's solution may be used.

The child also needs food. He is living on his lissues. But he cannot digest and absorb food. For a while (twelve to twenty-four hours) we must feed him with glucose solution. Ten per cent solutions intravenously or five per cent solutions subcutaneously are used. Glucose intraperitoneally causes distention and tenderness—a sterile peritonitis.

Buttermilk (or breast milk) is the food of choice after the twelve hours of starvation. Protein milk is buttermilk with cottage cheese added. Sugar must be added very soon and in older children cereals, toast and crackers, jello, canned peaches and pears, custards, puddings and salty broths can be given almost at once.

Ice cream tempts most children. It may be given in all flavors. Sherbets, fruit salads, and cold sliced tomatoes are more tempting than the usual sick room food.

For excessive diarrhoea I know of but one drug that is of any value. That is opium.

If paregoric or deodorized tincture is vomited by mouth, codeine hypodermatically is the drug of choice.

As a stimulant caffeine sodio-benzoate in doses of one-half to three grains is good.

Blood transfusions are certainly of some value, but blood transfusions are not cure alls, either in this or in infectious diarrhoeas. At present they are a fad and are frequently demanded by the family and friends.

Blood transfusions are not without danger and the indications for their use should be urgent.

Blood transfusions when a patient is seriously dehydrated are a positive menace to life.

We have learned much about the successful treatment of typhoid fever, or I might better say we have learned to nurse and manage typhoid fever.

Infectious diarrhoeas present similar problems. The infecting organisms belong to the typhoid group and are transmitted by fingers, food and flies. The disease runs a specific course and attempts to find a germicide that will sterilize the gut seem futile.

Let me predict that if ever such an agent is found

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*Read before the North Mississippi Medical Society, June 27th, 1934, at Warren's Lake, Miss.

it will probably be in the nature of a bacteriophage.

In infectious diarrhoeas, in addition to being starved of food and fluids and salts, the child has that most exhausting of all symptoms, pain. In their latest edition of Clinical Study and Treatment of Sick Children, John Thomson and Leonard Findlay of Edinburg and Glasgow, and of London advise small daily doses of magnesium sulphate and say that astringents and opiates by mouth are to be avoided. They give three doses daily (grains ten to thirty) of the epsom salts.

They also oppose bowel lavage and with this I agree. But if ever there could be an indication for opium I believe the restless, straining, crying child in a very agony of tenesmus needs it most.

Next to water and opium he needs food, and if he won't eat he must be forced to eat.

Fats are not well cared for, but sugars and proteins are digested as well as in other acute illnesses.

Milk and milk foods, toast and crackers, milk toast, ice cream, jello, custards and puddings, eggs, canned peaches and pears, pineapple and orange juice, well cooked green vegetables and soups and broths should be given. The canned baby foods are splendid and are a wonderful convenience.

Just as chewing gum, or food, cleanses and heals and ulcerated mouth, so does the passage of digested masses of stool tend to cleanse and heal the ulcerated bowel, and the answer is food, and more food.

Several years ago I realized that a great majority of our medical profession felt they were not competent to feed either sick or well babies. This mental attitude was due to the algebraic formulae and percentage methods of feed taught in our schools and

in our literature until the past few years. This prompted me to write a paper that I have never had the nerve to read or to publish. It was titled Suggestions for a Standard Treatment for the Diarrhoeas in Infancy. This standard treatment might be summarized as follows:

1. Search for any possible focus of parental infection.
2. Feed buttermilk plus some form of sugar, and force it.
3. Maintain the water supply of the body.
4. Use opium to check fluid loss and to relieve pain.

I still feel that says it all.

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Warwick Method of Treating Hay Fever

Dr. W. H. Anderson,
Editor of The Mississippi Doctor
Booneville, Miss.

Dear Dr. Anderson:

In reply to your request for a statement regarding the Warwick method of treating hay fever, I will state that this method is not entirely new. Dr. Warwick has been using the method six or eight years. A method similar, in principle, was used in Germany and England several years previously.

The treatment briefly is an ionization or iontophoresis of the nasal membranes with a solution of the salts of the three metals, zinc, cadmium and tin. The ionizing machine is the result of several years of intensive study by Dr. Warwick. The necessary skill in operating the machine, together with the cost of the equipment will necessarily limit the availability of the opportunity for this treatment at the present time.

I recently visited Dr. Warwick and spent some time with him, familiarizing myself at first hand with his technique and also observing patients whom he had treated previously. One patient whom he treated five years ago, only one treatment, has had no return of her symptoms. She had previously had severe attacks of seasonal hay fever, every year, for fifteen years. Another patient had the treatment two years ago. She had had rag weed hay fever in a very severe form every year for twelve years previously. She was entirely relieved the season following the treatment. There was recurrence of the symptoms one year later. I examined her nose and it was in perfect condition. She has not been affected in the least.

I have treated several patients. One patient treated over a month ago for perennial hay fever has been considerably relieved already. The rationale of the treatment is well founded. Many rhinologists have used some form of cauterization of the nasal membranes for hay fever during the past twenty-five years or more. The results of this, in the main, have been good, the more thorough the cauterization the better the results. Francis of London recently reported one hundred cases of hay fever treated by using an actual cautery to certain parts of the nasal membrane. Of this number, eighty-three percent were entirely cured of symptoms.

Observing the reaction of the nasal membrane for a few days following an ionization by the Warwick method, one is convinced of the completeness of the process brought about in causing a reaction in the tissues. There is a serous exudation formed involving the entire nasal space and especially those parts of this space that would come in contact with pollens and other extraneous matter that bring on attacks of hay fever.

The treatments are given in the office or the hospital with very little discomfort to the patient. Following the treatment, however, and continuing six or eight hours, the patient does experience considerable discomfort, in the way of a burning sensation in the nose and some headache. For this reason, it is necessary for them to remain in the office or the hos-

pital for a few hours where ice packs and sedatives may be administered. On the following day the pain is entirely relieved and the patient is able to go about his work. The nose, however, remains stopped up with the membrane for four or five days, necessitating breathing through the mouth. Only one treatment is necessary, usually.

The method is being used in some of the large clinics of the country and enthusiastic reports are being given out. While we are not yet able to tell how large a place this procedure will hold in the treatment of hay fever in the future, it is quite evident that its benefits are going to be very great.

With personal regards and best wishes for you in the management of the Mississippi Doctor, I am

Your friend,

CHAS. D. BLASSINGAME.

414 Physician and Surgeons Bldg.,
Memphis, Tenn.

Prophylactic External Version*

DR. JOHN LUCAS,
Greenville, Miss.

By external version is meant the conversion of a less favorable into a more favorable presentation by external manipulation. It's practical application involves the conversion of breech a transverse, into cephalic presentation during the latter months of pregnancy. It is not my purpose to present to you anything new on the subject, but I would like to impress upon you the value of this simple procedure that I feel has in the past been sadly neglected by physicians in the prenatal care of their patients.

Wigand in 1807, was the first to describe the procedure of external cephalic version in oblique and transverse presentation. Mattei extended it's use to the correction of breech cases, and Pinard popularized the procedure in France. Very little has appeared in the English and American literature on the subject until the past few years reports were made by Bartholomew, Gibbard, McGuinness, and Glassman. They made special studies of the procedure and its results, and materially added to our knowledge of the indications and technic of external version. Yet the value of the procedure has not been generally recognized as evidenced by the brief manner in which the subject is dealt with by modern Text books on Obstetrics. Of five modern books consulted none emphasized the routine use of external version in prenatal care, or in reducing the high fetal mortality and maternal morbidity in breech deliveries.

There are optimistic physicians doing obstetrics who maintain that a breech delivery is as easy and safe for mother and child as a vertex delivery. With all due allowance for individual skill and experience, when we deal with a large number of cases, the fetal mortality in breech is three to ten times as great as in vertex presentations.

During recent years there has been several statistical reports on breech delivery with recommendations as to modification of technic so as to lessen the

*Read before the Delta Medical Society, Cleveland, Miss., April 11, 1934.

high fetal mortality, but few mention the prophylactic treatment by external version. A comparison of a few available statistics will emphasize the greater danger to the baby in breech delivery, and indicate the most important indication for external version.

From modern text books:

Spears fetal mortality of 10% in Primipara.

Berkley & Bonney fetal mortality of 10% in Primipara.

Williams fetal mortality of 10 to 14% in Primipara.

Williams fetal mortality of 3.3% in Multipara.

Alex W. Bourne fetal mortality of 11% in Primipara.

Alex W. Bourne fetal mortality of 3.3% in Multipara.

Cameron & Hewitt fetal mortality of 12% in Primipara.

Cameron & Hewitt fetal mortality of 4% in Multipara.

Reed total fetal mortality of 14%.

Curtis total fetal mortality of 15%.

New York Lying in Hosp. fetal mortality of 16.4.

Gibbard reports from records of the out patient service of Guy's Hospital from 1863-1875 in 574 breech deliveries a fetal mortality of 40%. A more recent report of 221 cases from the same hospital shows a fetal mortality of 23.3% which is a marked improvement over 50 years ago but still there is reason for improvement. The following is reported from six English Maternity Hospitals:

136 uncomplicated cases, fetal mortality 26%, Neo natal mortality 6%.

All cases 446, fetal mortality 30%, Neo natal mortality 9%.

From Winnipeg General Hospital by McGuinness: Total fetal mortality 19.8 percent; Primipara 13.3 percent; Multipara 23.2 percent.

Taussig reports from the St. Louis Maternity a fetal mortality of 8.8% while the best report of a large series of cases was that of Duncan of Montreal who reported a 6% fetal mortality in breech deliveries.

If 3 to 3.5 percent is the average incidence of breech deliveries and 8 percent to 15 percent is a conservative estimate of the fetal mortality of viable breech cases as compared to the fetal mortality of 2 percent to 4 percent in vertex deliveries, the importance of preventing breech deliveries is at once apparent.

Let us compare the above fetal mortality statistics with that observed when the breech has been converted into a cephalic presentation by external version.

Gibbard reported 204 cases in which external cephalic version was performed and delivered as vertex. Fetal mortality 2 percent with an additional 1.4 per cent of the infants dying within 10 days. Total fetal mortality 3.4 percent.

McGuinness attempted external version in 59 cases, 57 were successful. Of these 56 delivered by vertex and one by section. There was one fetal death in a case of premature separation of the placenta with toxemia and could in no way be connected with the external version.

Vedder, of Mansfield Clinic, reported 52 cases of attempted external version, 48 were successful and 46 terminated in vertex deliveries. There was one fetal death which occurred before delivery, but 6

weeks after the version. There were no findings to account for the fetal death, which could in no way be connected with the external version done six weeks previously.

Bartholomew advocated the routine practice of external version and stated that 80 to 90 percent would be successful. He claimed that the procedure had no apparent harmful effect upon mother or baby during pregnancy or labor.

A comparison of statistics given prove that the high fetal mortality in breech cases can be prevented by the simple and comparatively harmless procedure of external version.

In breech deliveries there is also an unavoidable, slightly increased mortality for the mother on account of longer labors, resulting in exhaustion, early rupture of the membranes, greater liability for lacerations and injury to the pelvic floor, and therefore a greater risk of sepsis.

In every case of labor I feel that it is important to secure for the patient as easy a labor as can reasonably be achieved. The length of time required for convalescence after a long and trying confinement is much greater than is necessary after a relatively normal labor. This is particularly true of the return to normal as regards the patient's nervous system. It is also unjustifiable to run the risk of delivering a stillborn child.

In all primipara and in multipara that have had a previous difficult labor, it is important to ascertain the relative size of the head and pelvic inlet. This can be readily determined in vertex presentations by engagement or lack of engagement of the head either before labor or after a test of labor, but the diagnosis of such adaptation or disproportion in breech presentation can only be made in the last phase of actual delivery. It is at this time that the obstetrician may learn to his dismay that disproportion exists, in which case the result is a stillborn or fatally traumatized infant, and in many instances severe damage to the mother. It would therefore be especially desirable in the borderline pelvis, to convert a breech to a cephalic presentation to allow a trial labor. If the vertex does not engage, a section could be done.

Brown in summing up the causative factors of death in 153 newborn stated "that breech deliveries were ten times more likely to give rise to cerebral hemorrhage, as delivery by vertex." Other injuries to the baby, more common in breech deliveries may be mentioned as spinal cord injuries, fractured vertebrae, arms and clavicles. These complications are practically eliminated when external version is successful.

In my own practice during the past five years I have attempted external cephalic version in 14 cases, 12 with breech, and 2 with transverse presentations. Of these 12 were successful, one having recurred but was turned again and remained in position. All 12

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deliveries were without complications to either mother or baby. Two were unsuccessful after several attempts without anesthesia, and one attempt with anesthesia. The first failure was in a primipara 40 years old, who had been married 15 years. On account of the value of the baby Caesarian section was done and the uterus was found studded with numerous small fibroids, which to me explained why external version was unsuccessful. The other was a primipara who had very little amniotic fluid, and the uterus would become contracted at each attempted manipulation. She delivered as breech without difficulty.

Contra-indications to external version may be mentioned, multiple pregnancy, marked pelvic contraction, dead fetus, premature separation of the placenta, previous Caesarian section scar, or threatened uterine rupture.

As spontaneous version so often occurs it is not advisable to attempt the procedure until the 34th week. Spontaneous version occurs less often as term approaches, and external version becomes more difficult after the 36th week, especially in primipara.

One should not allow the breech to remain in the hope that spontaneous version will occur, as the most favorable time for external version may be lost. Between the 34th and 36th week is the ideal time, as the presenting part has not descended into the pelvis, the baby is small enough to be turned without the use of anesthesia, and usually large enough to retain its position.

During the last two months abdominal examinations should be done at least every two weeks, so that breech and transverse presentation may be detected and converted into cephalic presentation. If after external version the breech should recur, a second or even a third attempt should be made. If the patient is very nervous or abdomen very tense, an anesthetic may be used, but I feel that the manipulation should always be attempted first without anesthesia, as when the patient is conscious the rough manipulation of the operator will be held in check by the subjectal feelings of the patient. If undue force is required it would be better to allow the breech to remain.

TECHNIC

The difficulty of substitution of a cephalic for a breech or transverse presentation has been very much exaggerated. An occasional case cannot be turned due to lack of amniotic fluid, associated uterine fibroid or extended legs of the fetus. In preparation for the procedure the bladder and rectum should be emptied. It is essential that the exact position of the fetus be accurately determined. If this cannot be done by palpation and auscultation, an x-ray should be made. This is rarely necessary except in very fat individuals. The patient is placed in the dorsal position with legs slightly flexed, and shoulders elevated on a pillow. The breech is grasped with the right hand and pushed upward and toward the iliac fossa of the same side as the fetal back. With the left hand the fetal head is pushed downward and toward the side of the fetal soft parts. An effort is made to keep the fetus in an attitude of flexion, and at the same time turning, by pushing up on the breech and down on the head. After the long axis of the fetus passes the transverse axis of the uterus, the head

is easily guided over the pelvic inlet—slight pressure should then be made to engage the head into the pelvic inlet. All manipulation should be done as gently as possible. If the breech is engaged it will first have to be pushed up out of the pelvis, with the aid of two fingers in the vagina. There is slight discomfort in disengagement of the breech, and when the fetus passes the transverse axis of the uterus.

The use of pads or bandages is not necessary to keep the fetus in position.

CONCLUSIONS

1. The mortality of the fetus in transverse, and breech presentation is so high that no effort should be spared to avoid these abnormal positions.

2. In external cephalic version we have a safe and comparatively simple method of changing these presentations to vertex.

3. Breech deliveries can be reduced by 80 to 90 percent by the routine use of this procedure, during the last two months of pregnancy.

4. If necessary an anesthetic may be used.

5. External version has no apparent harmful effect upon mother or baby during pregnancy or labor.

6. The objections raised against the procedure are more theoretical than practical, because complications rarely occur.

Arachnidism: Poisoning From the Bite of *Latrodectus Mactans**

REPORT OF SIXTEEN CASES

T. J. BARKLEY, M.D.
Isola, Miss.

Despite the prevalent popular belief in the poisonous nature of spider bites, entomologists and arachnologists have been almost unanimous in asserting that they are harmless, and medical men have been accused of unscientific readiness to accept popular reports of spider bite poisoning without establishing the truth of the facts stated. Lay people in all parts of the world have, apparently with good reason, considered the spider as poisonous. Nevertheless, the positive evidence of hundreds of careful observers cannot be lightly disregarded. Dangerous illness and even death from the bite of spiders have been described in Spain, France, Italy, Australia and Russia. The *Latrodectus Mactans* is the chief and perhaps the only really poisonous spider in the United States, so far as is known, that produces a definite train of symptoms. Arachnidism, or spider bite poisoning, thus, has become recognized as a definite and distinct clinical entity by the medical profession.

According to Dr. Emil Bogen, Los Angeles, Cal.,

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nearly four hundred instances of systemic poisoning from its bite have been reported. To this number the writer wishes to add sixteen cases observed in the Mississippi Delta and to stress the importance of and to aid in its clinical recognition.

DESCRIPTION

The arachnidia perpetuate the name of Arachne, a Lydian maiden turned into a spider by Minerva for presuming to compete with her in weaving and embroidery. The particular and pernicious species with which we are concerned, *Latrodectus Mactans*, enjoys many popular nicknames in addition to its many and more dignified scientific synonyms. Some of its more common nicknames are, the "Black Widow," the "Hourglass" spider, the "Shoe button" spider, the "T Bar" spider, the "PO-KO-MOO" and simply the "Poison" spider.

The California Indians called it the PO-KO-MOO. It was their custom to mash it and rub the points of their arrows in it. The spider is a shiny, coal black spider usually variously marked under its globose abdomen with brilliant spots and stripes of red or yellow or both. The most constant of these markings is a bright red patch shaped like an hour-glass, which gives rise to the name hourglass spider. The abdomen is larger than the cephalothorax, and it so resembles a black shoe button that "shoe-button" spider is a common appellation. The female is much larger than the male, less brilliantly marked and is always responsible for the bites. In addition, she adheres to the custom of eating her mate and has

thus won the deserved sobriquet of the "Black Widow". The black widow is half an inch long, when fully grown, and the spread of the long glossy legs may be as much as two inches. It is usually found alone as it will engage in mortal combat with any other spider placed near it and builds for its home a coarse and irregular dark web in dimly lighted places where it may be undisturbed. It is not infrequently encountered in outdoor toilets, stumps or bushes, in the corners of little used buildings and barns, in the basements and attics of unfrequented houses, and in old boots or shoes.

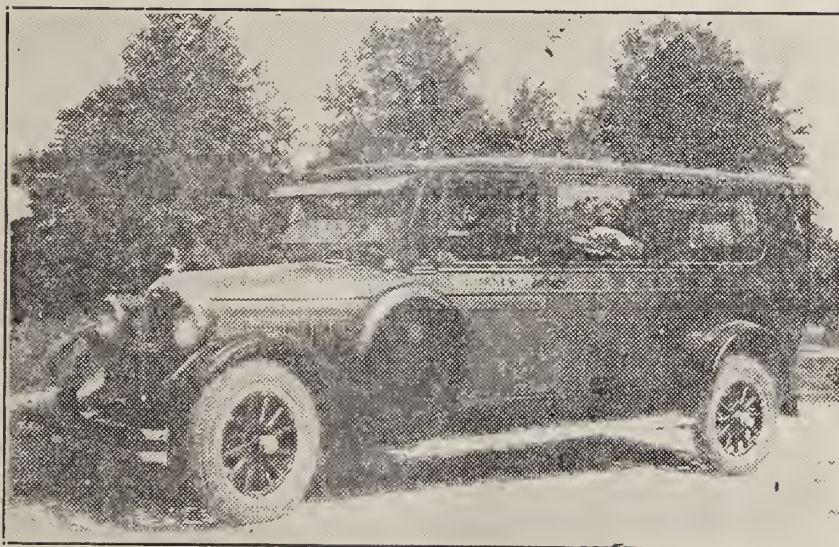
SYMPTOMATOLOGY

Bogen has described the symptoms in detail in order of frequency and has produced most of the symptoms experimentally in the white rat. The marked similarity of these sixteen cases admits of one description of all. These patients were all males, two white and fourteen colored, all lived in Mississippi Delta, each was bitten either on penis, scrotum, buttocks, feet or hands, all came under my observation from one to twelve hours after being bitten and all reacted to the poison in the like manner. The condition is usually seen in summer or autumn either in the early morning or late evening.

The first symptom in each case was a stinging, burning or sticking sensation at the local site of the bite. This soon disappeared, and except for a tiny red spot sometimes seen, there was no mark or swelling locally. In less than fifteen to thirty minutes, however, the characteristic pain appeared, increasing

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in severity and agony for several hours. The pain has been vividly described and intense, violent, agonizing, excruciating, griping, cramping, shooting, lancinating, aching and numbing, and was either continuous and incessant, or paroxysmal and intermittent. The pain spreads from the site of the wound by continuity; thus, the patients bitten on the penis usually have pain in the groins and then in the abdomen, while those bitten on the hand or wrist have pain in the arm and then the chest before it reaches the abdomen, suggesting that the venom spreads by the lymphatics and acts in the muscles rather than in the central nervous system.

In addition to the acute pain which was evidenced in most cases by writhing, rolling, doubling up and muscle spasm, many other symptoms were described. The most common in order of frequency include profuse cold sweats, restlessness, anxiety, difficulty in breathing, anorexia, nausea and vomiting, constipation, cyanosis, delirium, prostration, shock, insomnia, speech disturbances and acute urinary retention. One of the white patients complained of precordial pain and palpitation of the heart. The most acute symptoms subsided in from twelve to forty-eight hours after the onset, but complete ease was often not secured for more than a week.

On examination an extreme board-like rigidity of the abdomen was the most striking of the physical findings. Another peculiar feature was an absence or very little tenderness of the abdomen. The blood pressure was slightly increased later returning to normal. There is also an increase in the pressure of the spinal fluid. The reflexes were increased, the temperature was subnormal at first, later slightly elevated, and the pulse regular but weak and slow. The blood picture revealed a slight leucocytosis. The laboratory reported a trace of albumin in the urine together with some hyaline and granular casts. Constipation was the rule in all cases.

DIAGNOSIS AND DIFFERENTIAL DIAGNOSIS

According to Bogen the diagnosis of Arachnidism due to the bite of the *Latrodectus Mactans* spider depends upon:

1. A history of the sting of the black spider bite. There is usually little or no visible lesion at the site of the inoculation.

2. A characteristic pain, starting in the region of the bite and spreading until most of the larger groups of muscles of the body are involved.

3. Rigidity and muscle spasm, most notable in muscles of the abdominal wall, which become board like and hard, as in general peritonitis. It should be noted that the rigidity is not confined to the abdomen, but that the intercostal muscles contract causing a tightness of the chest with shortness of breath, the back muscles contract causing a stiffness of the back. True local tenderness is usually absent.

4. Increased blood pressure, increased spinal fluid pressure, leucocytosis, hyperactive reflexes, and elevation of temperature are to be expected.

5. Profuse perspiration, restlessness, anxiety, nausea and vomiting are noted.

If these considerations are borne in mind, it is not usually difficult to distinguish a case of arachnidism from one of acute surgical abdominal condition, renal or biliary colic, tabetic crises, food poisoning,

pneumonia, appendicitis, ruptured gastric ulcer or any other acute condition.

MORTALITY

The mortality rate is low and patients usually recover within a few days, but the suffering is intense. Bogen says that more than a dozen fatalities have been reported.

TREATMENT

Treatment of these cases consisted of:

1. Sedatives—usually large doses of morphine are necessary to relieve the pain, together with sedative hydrotherapy and reduction of intra-cranial pressure by the administration of hypertonic solutions or spinal puncture.

2. Stimulants—as caffeine sodium benzoate and nitroglycerine. Whiskey and alcohol are said to be contraindicated in these cases.

3. Eliminations—fluids were given freely and such purgatives employed as were necessary to relieve the severe constipation. No local treatment was necessary at the site of the inoculation.

4. Specific Treatment—with serum from convalescent victims is of value if administered early.

CONCLUSION

The black widow spider has been definitely identified over more than half the United States.

The patients present a striking clinical entity that once considered as a possibility, the diagnosis is easily made.

The mortality rate is low and the patients usually recover spontaneously within a few days.

The prevention of arachnidism depends upon popular education as to the danger of these spiders and the advisability of their eradication.

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Report of Syphilitic Project Conducted at Scott, Mississippi*

I. I. POGUE, M.D.

Chief Surgeon, Delta & Pine Land Company of Mississippi

In May, 1929, the Delta & Pine Land Company of Mississippi entered into an agreement with the Julius Rosenwald Foundation to conduct a syphilitic project on the colored tenants at Scott, Mississippi, at a cost of approximately \$14,000.00.

WASSERMANN SURVEY

Between the months of May and September, 1929, a Wassermann survey was made on tenants of all ages. Blood for Wassermann Test was taken from 3653 individuals (male 1886, female 1767). Of this number 955, or 26.14 percent, (male 473 or 25.08 percent, female 482 or 27.28 percent) were positive.

PHYSICAL EXAMINATION

Of the positive cases 837 (male 422, female 415) were given a physical examination. A complete history was taken on each individual case and a daily record kept throughout the treatment period.

Depending upon the result of the physical examination, the treatment was outlined for each individual.

*Read before the Delta Medical Society, Cleveland, Miss., April 11, 1934.

al case. A urinalysis was made on each case once a month and if albumin or casts were present the treatment was discontinued or changed as the case required, until the urine became negative again.

TREATMENT

Dr. O. C. Wenger, A. A. Surgeon, U. S. P. H. S., who has charge of the Government Clinic for Venereal Diseases at Hot Springs, Ark., outlined and supervised the treatment adopted. The complete treatment consisted of the intravenous administration of 24 doses of Neo Arsphenamine, .6 gm. each, given in 10 c.c. of sterile distilled water, one each week for 12 weeks and then a rest period of 12 weeks, followed by the administration of Neo Arsphenamine for another 12 week period. In addition to this, 15 gr. of 50 percent mercurial ointment was administered daily by inunction for nine successive days followed by a hot bath and a rest period of 5 days. The mercurial treatment was continued in this manner throughout the treatment period. To the cases over 50 years of age or those showing cardiac or renal disturbance neither Neo Arsphenamine nor mercury were given. To these, 20 minims of a saturated solution of potassium iodide were administered 3 times daily throughout the entire treatment period.

In the administration of the Neo Arsphenamine freshly distilled water was used each day. The reaction from its administration was very slight. In but few cases was the reaction severe enough to demand the discontinuation of the treatment and no fatalities resulted from the administration of approximately

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In the cases showing a dermatitis as a result of the arsenical administration the Neo arsphenamine was discontinued and 15 grs. of sulfactol, in 10 c.c. of sterile distilled water, was given intravenously twice a week until the dermatitis disappeared.

The mercury was administered by means of a rubberized belt made for that specific purpose. The belt was made of rubber sheeting, about 5 inches wide in the center and 18 inches long with strips of domestic attached to the ends to be tied around the body. The daily dose of mercurial ointment was placed on the belt which was fastened around the body in such a manner as to cause the mercury to be rubbed into the skin by the movements of the body during the day. This proved to be the most satisfactory method of administering the mercury by inunction. Each patient was given a tooth brush and a box of powder consisting of equal parts of soda, salt and borax and instructed to brush the teeth with this powder twice daily to prevent ptialism. Only a small percentage complained of any discomfort from the use of mercury in this manner. In the cases showing signs of ptialism, the mercury was discontinued and 2 drams of a saturated solution of sodium thiosulphate given 3 times daily with very satisfactory results.

This treatment was not selected because it was considered to be the best treatment that could be given, but it was selected because it was thought to be the best that could be given under circumstances. A number of elements had to be considered in selecting the treatment to be followed. We were dealing with an ignorant class of people who did not realize their condition or appreciate the importance of the treatment. All being tenant farmers on a cotton plantation, the loss of time from work was another important point to be considered. The plantation of the Delta and Pine Land Company, which was covered by this project embraced, approximately 40,000 acres of land and extended a distance of 10 miles from Scott, the central point. The lack of conveyance on the part of the tenants and muddy plantation roads made it impossible for the tenants to come to the office for the treatment, therefore, it was necessary for them to meet at a designated place on the plantation at a specified time each week to receive their treatment. This inconvenient situation incurred a great deal more work on the part of those administering the treatment. To successfully administer this treatment, it required a physician, a nurse and three helpers. 10 c.c. Luer syringes with 22G. 2in. needles were used in giving the Neo Arsphenamine. The syringes were washed in Tr. green soap and water solution, equal parts alcohol and water and finally rinsed in normal saline solution between each injection of the intravenous medication.

This project extended over a period of 2 years, during which time 252 patients (male 124--female 128) completed the full treatment as outlined.

There were 260 patients (male 130--female 130) still on treatment at the close of the project, 117 of whom (male 58--female 59) had taken 10 or more treatments of Neo Arsphenamine.

There were 48 patients (male 23--female 25) on whom the treatment was discontinued for various reasons.

During the period 257 patients (male 133--female 124) discontinued the treatment on account of having moved out of the scope of the project.

Died during the project, from various causes, 20 (male 12--female 8)

At the end of one month after the discontinuation of the treatment a Wasserman resurvey was made with the following results:

Of the 252 patients completing the treatment 185 or 73.41 per cent were negative.

Of the 260 patients still on treatment at the close of the project 172 or 66.15 per cent were negative.

Of the 48 patients on whom the treatment was discontinued for various reasons, 35 or 73 per cent were negative.

On the reexamination of 584 cases who were negative when the original Wasserman survey was made there were 45 positive cases or 8 per cent. Yet no new lesion were found on any of these patients.

There are several explanations that suggest themselves as to why 8 per cent of a group who were negative at one time would show positive reaction 2 years later.

1st. The chances of infection during the 2 year period between the first and the second Wasserman.

2nd. Pathological changes in the patient's blood during the progress of the disease.

3rd. Errors in laboratory technique. However, an error of 8 per cent in laboratory reports shows exceptionally good technique and when the other factors outlined above are considered, the laboratory is to be congratulated on its good work.

The Faculty Committee on Commonwealth Fund Scholarship Awards after a careful study of the qualifications of 53 applicants from Mississippi selected the following four students for scholarships: Henry Clay Dorris, Jackson, Miss.; Warren Candler Jones, Magnolia, Miss.; Marshall Louis Michel, Jr., Biloxi, Miss.; John Andrew Murfee, Becker, Miss.

Dr. Doss in announcing the awards said: "Our Committee has taken its responsibility seriously and has put forth every effort to make the best selections. We have had personal interviews with each of these students and feel confident that every one of them will prove entirely satisfactory and that they will fit well into the program of promotion of better rural health service in Mississippi, to which the Commonwealth Fund is contributing so generously."

There are now in Tulane Medical School fifteen deserving young men who have been awarded scholarships under the Commonwealth Fund plan of cooperation with the Mississippi State Board of Health and Tulane Medical School. Each boy in return for the financial assistance he is given, promises to practice medicine for at least three years in a Mississippi town with a population of not over 5,000.

The awards are based largely on previous scholarship record, financial need, good health, personality and character.

EUGENE ROSAMOND

Pediatric Diagnosis

Rosamond Clinic for Children
Madison Avenue at Somerville
Memphis, Tenn.

Intravenous Use of Hydrochloric Acid*

R. B. CALDWELL, M.D.
Baldwyn, Miss.

I have heard much about the intravenous use of hydrochloric acid. A few months ago I had the pleasure of spending a few hours with Dr. Burr Furgerson of Birmingham, the originator of the idea. I checked over a number of his cases with him and the results. He gave me the reasons why he thought hydrochloric acid does good in the vein in so many cases. He has been giving it for three years and keeping careful records. He is not claiming any great discovery, but has helped patients who otherwise he had not been able to relieve.

I use a solution of one to one thousand and give ten cubic centimeters in the vein.

I am now treating my 35th case of gonorrhea, some acute, some as long as six years standing. I give 10 cc. in the vein every other day in the acute cases until the discharge is thin and watery and then twice a week until cured. Twenty-one days is the longest time it has taken to stop the discharge in any case. five the earliest. I can not find evidence of infection in these cases to date. I do not use any injections and will not treat a case who does.

I have treated another series of prostatic obstruction with residual urine. My first case was a man seventy years of age who had worn a retention catheter for ten days. I treated him ten days. 10 cc. by vein every other day. The catheter was removed after the second dose. The difficult urination is now gone, urine is clear. He was given twelve doses. He says he feels good.

Second case, a man 84 years old, temperature 105 by axilla, urine dribbling, bladder distended. Urine was full of pus. Not knowing what else to do I gave him 10 cc. of hydrochloric acid by vein. The next day another dose. In thirty hours he was clear of fever and had regained consciousness. The treatment was continued until ten doses were given. Five weeks later he had another block. The treatment was given again and he was again relieved. He is not well, but has been given much relief.

A third series of cases is Varicose leg ulcers. The case of an old man who had ulcers on both legs extending over the lower half of the legs down to the ankle, covered with raw sores, sero-purulent exudate and very painful to walk. Ten cubic centimeters of the acid was given every other day and on the eighth day the ulcer had nice new skin covering practically the whole of the area and no pain, and exudate gone. Treatment was continued twice a week for three weeks. Sores are healed. I am waiting to see just how long this will last.

A fourth series of cases is Bronchial Asthma. The same dose was given as in other infections, and to my surprise, one case has gone some three months and not an attack. Another case was under treatment for three weeks and feels better and has gained 12 pounds. Has had only one attack since beginning the treatment. Have another case just begin-

ning treatment and this is the most severe that I have ever known. Has taken adrenalin every day for more than a year. Patient is feeling better after the fourth dose. These are for experiment and patients were given no promise as to the results, only assured that the treatment would not harm them in any way.

A fifth series is Sciatic Rheumatism. Three cases were treated with a dose given every other day. No patient was given more than eight doses. Got beautiful results.

A sixth series is Gastric Ulcer. Have had only one case to try the treatment. This patient had not been able to get out for four months. He was given twenty doses. I gave him the first ten doses two days apart, and then two doses a week. He eats all he wants, sleeps well, has no pain and has gained in weight and strength. He thinks he is well, I do not think so, but think he is improving nicely.

Having treated quite a number of minor ailments with much satisfaction I will not go into details but will just name some: Carbuncles, boils, one case erysipelas, salpingitis and tonsillitis. Results were gratifying.

Now as to why have a cure all and not use it for everything and throw all other treatments away. I would suggest that the hydrochloric acid is not a cure all, but that the action on the white blood cells and the phagocytes is very interesting and convincing to study. I would advise that you run your total and differential counts before giving the dose, and again one hour later and note the increase in the count. In some cases you will note that you get a temporary drop for three or four hours. When the white count is high, you nearly always get the drop for a few hours.

The therapeutic action of hydrochloric acid is to increase the white cells, the phagocytes. If they are increased infection can be killed out, repair is brought about. So hydrochloric acid seems to increase the standing army of the blood, the white cells, and it does it without harming the human organism. It is a means that we can use without harm, I believe. More people need it than you think about. If you use it in the right strength, the right amount, in the vein and have your needle and syringe sterile and get it in the vein, you need not be afraid of it. I don't use it stronger than one to one thousand.

Dr. Furgerson is experimenting with the acid in a number of other conditions. He can show some fine results I am sure and I am anxiously awaiting them.

Now if you want to ride me on this report, call it bunk and say what you like. I will take what is coming, but I am ready to show my cases. Don't land on me and Dr. Furgerson and let me catch you doing the same thing.

Some of you are buying sealed ampoules and that is fine and all right, but you can make your own solutions and save the price. Just be careful, be sure they are sterile.

HENRY G. RUDNER, M.D.

Clinic—Internal Medicine

1108 Madison Avenue

Memphis, Tenn.

*Read before the staff meeting of the North East Mississippi Hospital, August.

Plastic Surgery of Today

Wm. MILTON ADAMS, M.D.
Memphis, Tenn.

DEFINITION:

Plastic surgery is a highly specialized field of surgery which deals with the reconstruction of the disfigurements following injury or disease, repair of congenital or acquired malformations of the body and all operative measures undertaken to improve the appearance. It is a field of surgery which demands special qualifications other than being thoroughly familiar with the general principles and practices of general surgery. Artistic considerations are inseparable from any plastic operation. Surgical skill must be supplemented by sound artistic judgment and a creative, practical imagination. No two plastic cases are alike, and the plastic surgeon must combine the precision and artistry of the sculptor with a thorough knowledge of the structure, function and availability of the various tissues of the body. There is no type of surgery which demands more skill, more ingenuity, more patience, more forethought or more attention to detail. You might well say that it is millimeter surgery.

HISTORY:

Plastic surgery is not a new art by any means. It was one of the first forms of surgery to be practiced. Surgeons of all civilized and some uncivilized countries from the most ancient times have practiced it. The Hindoos, two thousand years ago, performed successfully many plastic operations. In India, plastic surgery was practiced by the Tilemaker caste and remarkable results were obtained in building new noses by pedunculated skin flaps from the cheeks and forehead. In India, noses were, and are yet, frequently cut off as a punishment. It is not uncommon, even today, in certain tribes of India for the husbands who are suspicious of the virtue of their wives to cut off their nose or their ears. The story is told of an Indian King who conquered a city and cut off the noses of all the inhabitants except the infants and those who played wind instruments. The name of the city was changed to signify the "city of cut noses." It is not strange that under such conditions there should be a great demand for the art of plastic surgery. Plastic surgery has been practiced through all the ages. In certain countries there would be one or two hundred years that there would be practically no plastic surgery performed, then there would be renewed interest, probably as result of some able plastic surgeon and much plastic surgery would be done and written about for one or several generations. Despite the fact that there is scarcely an operation, not even a single type of skin flap in use today, that was not suggested or used a hundred or more years ago, one may well say that plastic surgery before the World War was an embryonic branch of surgery. The World War reawakened a special interest in the subject and many valuable additions to and modifications of the older methods were made. These additions and modifications, together with the modern knowledge of asepsis in surgery has made plastic surgery today one of the highest developed forms of surgery.

BENEFIT OF PLASTIC SURGERY:

After the War, and it became known that plastic surgery was successful in returning men who had been badly disfigured from war injuries back to their places in civil life, a new call developed for this type of surgery. Those who from birth had suffered humiliation and embarrassment because of irregular and distorted features wanted to be operated upon. Those dependent upon their appearance for their living wanted a cosmetic improvement. This desire is not an unreasonable one, for there is a constantly increasing preference in the business and professional world for attractive and youthful employees. Few like to employ the man or the woman upon whom the years have left their traces, and to these an operation which can lift ten or twenty years from their apparent age is not a small personal vanity, but a matter of meeting the serious responsibilities of life. There are many young people, who in the unstable years of adolescence and early maturity, who are so sensitive to even the slightest disfigurement that they prefer death or complete social retirement to the exhibition of their real or imagined affliction. In most of these cases, reparative surgery holds the key, not merely to anatomic normality but to psychic health as well. It is a great pleasure to note a patient improve both in mental and physical tone after some facial disfigurement has been removed. They have a brighter expression in their eyes; there is a disappearance of the frightened look; they don't have the hesitancy in speech and action as they formerly had; and they have an increased confidence in themselves and hence increased efficiency. A more general appreciation of these facts will help to bring about more advances and benefits in plastic surgery in the future. The time is not far off when all of the larger hospitals of the country will have a plastic surgery clinic so that the poor as well as the rich can have the benefits of plastic surgery.

ECONOMIC SAVINGS:

Vast sums of money are lost to the community each year through the inexpert treatment or lack of treatment of industrial and other accidents. Millions of dollars are paid out for permanent disfigurement as a result of cuts, burns and lacerations when plastic surgery could have prevented or minimized the deformity. It is the insurance companies who pay directly for these exaggerated indemnities, but indirectly, the money comes out of the pockets of everyone carrying a liability policy of any kind. Year before last, in one state, six insurance companies were forced out of business because of the terrific drain imposed upon their resources by a series of such cases. There are lawyers with a keen, shifty eye, who specialize in this type of action, realizing the sympathy of most juries for a claim of permanent disfigurement, especially in women. In many of these cases, if the patient was put in the hands of a qualified plastic surgeon, the indemnity would be saved and the plaintiff would be relieved of his malformation.

HENRY G. HILL, M.D.
Clinic, 847 Madison Avenue
Memphis, Tennessee

Practice Limited,
Diseases and Injuries
Bones and Joints
Cripples and Deformities

Braces and
Orthopedic
Appliances

Letter From Dr. Bryan

Dr. W. H. Anderson
Booneville, Miss.

Dear Dr. Anderson:

I am in receipt of your letter asking me to help you in your very laudable attempt to start a campaign, looking to the eradication of Malaria from Mississippi. I agree with you that education of the general public is most important and I further agree with you that the country newspapers are the medium through which the masses must be reached, if they are to be reached at all. Of course the doctors must do their part (and this is a most important part) in this educational program. But I have faith in the doctors to believe that they will not fail in this undertaking—they never have failed. But in order to enlist them properly they must see that the state is backing them and they must feel that there is a united effort on the part of organized medicine as well.

I have long felt that there should be some ONE man whose duty it should be to carry health problems to the people of Mississippi ONCE EACH WEEK. Of course this man should be under the direction of the State Board of Health and the public should know he was backed by this board and that his pronouncements were in a large sense official. No greater work, along health lines, was ever undertaken or accomplished, than that done by Dr. W. A. Evans. But this work was done thru the medium of the daily press and at the expense of a lay paper. However the work was strictly ethical and Dr. Evans was given free hand and no kind of propaganda was ever permitted to get into his column. But our population is rural in all the term implies and only a very small percent of our people ever read or see a daily paper. Hence Mississippi is virgin soil for this kind of educational work. I can not see why this work should not be undertaken and carried on at public expense. Dollar for dollar, I think, it would yield higher dividends than any money spent in public health work. Of course it would not be as spectacular as some undertakings and it might be hard to show politicians the necessity for it. But no one would question the benefits of public schools. Yet some of us older citizens can well remember when grave doubt was felt as to the wisdom of maintaining free public schools in Mississippi. Now there is more money spent for the support of public schools than for all other departments of state. So I suggest to you that your watchword be "Education of the public along health lines, and at public expense."

About fifteen years ago, I served Monroe County in capacity of part time health officer. Altho it was not required of me nor was it suggested that I do so, I made it a rule to furnish each local paper in the county, once each month, a short paper on some public health topic. After a lapse of a dozen years people still visit my office and write me urging me to favor them with more such papers. They, of course, do not understand that I can not for many good reasons do this. I only mention this to show that the public is willing and anxious to get information on these vital questions. And if they are not given INFOR-

MATION they, too often, will be given "MISINFORMATION."

The above are just a few hints or suggestions that may be acceptable to you in your very commendable efforts to benefit the masses.

Yours very truly,

G. S. BRYAN

The Alcorn Medical Society

The Alcorn County Medical Society met at Dr. Gilbert's lodge, Waukomis Lake, July 19, at 7 p. m., with twelve members present. The meeting was called to order by the president, Dr. J. R. Hill, and case reports were presented by Drs. Lanning and Johns.

Dr. Lanning presented a case of erysipelas following a forehead wound in a female eight and one half months pregnant. The important point that he brought out was that with heavy dosages of morphine and pantopon labor was held off for eight days—thus giving time for active immunity to be built up. Therefore puerperal sepsis did not result. He then presented the following proposition: A middle aged white male, married to a younger woman—a second wife, presented himself for treatment of acute gonorrhea, giving a history of an illicit intercourse fifteen days ago and intercourse with his wife eight days ago. The patient was in great anxiety, thinking that he might have infected his wife, and questioned the doctor about the danger. Dr. Lanning assured him that there was no danger of infecting his wife. (Later this proved to be correct since the wife was the source of his infection.)

Dr. Johns presented a case of bilateral gonorrheal ophthalmia in a white female, age 10, also suffering from a vulvo-vaginitis. This case recovered with very slight damage to one eye after a week in the hospital during which time she received frequent instillations of 10 per cent Argyrol, frequent flushings of Boric Acid solution, and foreign protein therapy. Dr. Johns gives the following as the accepted treatment of gonorrheal ophthalmia:

1. Hospitalization.
2. Instillation of two drops of 10% Argyrol at fifteen minute intervals.
3. Irrigations with saturated solution of Boric Acid at fifteen minute intervals. (Keeping the cornea free of pus is the most important point in treatment.)
4. Iced compresses.
5. Foreign protein therapy. (Use 1 c.c. of boiled milk intramuscularly for each fifteen pounds of body weight.) Give it daily for three days then every other day.

Foreign protein therapy appears to be a near specific in these cases. In the newborn 1 c.c. of the mother's milk just as it comes from the breast is used. Cow's milk gives too severe reaction in young babies.

In the discussion the point was raised as to whether 25% Argyrol would be more efficacious than the 10%. Dr. Johns is of the opinion that the 10% solution is just as good.

Following the scientific session a barbecue supper was enjoyed.

MORBIDITY AND MORTALITY FOR TYPHOID FEVER, DIPHTHERIA, AND PELLAGRA IN THE STATE OF MISSISSIPPI FOR 1932 AND 1933

As a result of the splendid work done by the health forces and physicians and the cooperation of the general public of the State of Mississippi, the deaths for typhoid fever as reported to the State Board of Health showed a decrease of 15 per cent in 1933 under 1932 and a 42 per cent decrease in the cases, diphtheria showed a 20 per cent decrease in deaths and a 21 per cent decrease in cases, and pellagra showed a 20 per cent decrease in deaths and a 2 per cent increase in cases.

Several counties in the State showed deaths occurring from typhoid fever in their reports. These deaths occurred in cases that were brought in from outside of the State and from other counties within the State. This is to be expected for the reason that all counties do not have hospital facilities for the severe cases of typhoid fever which occur. The following counties showed no deaths from typhoid fever for the year 1933: Amite, Benton, Calhoun, Choctaw, Claiborne, Clay, Covington, Forrest, Franklin, Greene, Grenada, Hancock, Holmes, Issaquena, Kemper, Lamar, Lawrence, Leake, Montgomery, Oktibbeha, Panola, Pearl River, Sharkey, Stone, Tallahatchie, Union, Walthall, Wayne, Yalobusha, and Yazoo.

Bolivar County showed the greatest decrease in cases and deaths. Until intensive immunization and sanitation were carried on routinely in Bolivar County, there were annually reported approximately 200 cases and 20 deaths as an average for typhoid fever for this county. Since 1925, there has been a gradual decrease in cases and deaths. For 1933, Bolivar County reported 12 cases and 5 deaths.

Since 1930, on a basis of previous experience, Mississippi has been due for a marked increase in cases and deaths from typhoid fever. The health forces and general public have become "typhoid conscious" and, as a result, this anticipated increase has not occurred. It is hoped that all persons will avail themselves of the opportunity to be inoculated against typhoid fever during 1934, beginning immediately as the season for typhoid fever is here. The increase in cases begins in March and reaches its peak in July with a gradual decrease thereafter. Persons who have not been inoculated in the past three years should go to their physician or to the county health officer and have themselves and all members of their families, two years of age and over, inoculated. Typhoid vaccine is available without charge to any physician in the State. The physicians should make a request direct to the State Hygienic Laboratory, State Board of Health, Jackson, Mississippi. People should avail themselves of this service at the earliest possible date for the reason that a period of approximately one month is required for immunity to develop following administration of vaccine. People should not expect private physicians to administer typhoid vaccine without charge as this is a true service given by the physician for the protection of the health of the individual. The State Board of Health will provide the vaccine without charge, and the physicians of the State will administer the vaccine for a very reasonable fee. As a demonstration of the value of typhoid vaccine as practiced in Mississippi, an investigation of 169

cases showed that only five of these cases had had not even one dose of typhoid vaccine within three years. There was no record available on four of the five cases to determine whether or not they had had typhoid vaccine. The word of the individual was accepted as the record. The record showed that one of the five cases had had one dose two years prior to the onset of the attack of the disease.

Diphtheria showed a remarkable decrease. Diphtheria is also controllable by immunizing. It is gratifying to note that there was a 20 per cent decrease in deaths in 1933 under 1932. It is felt that the splendid immunizing program promoted by the Parent Teacher associations organizations over the State is in a large measure responsible for this gratifying decrease in deaths and cases. "Immunization of all Children from Six Months to Six Years" has been the May Day motto for three years in Mississippi. It is felt that results obtained through this program promoted by the Parent Teacher organizations is well worth the efforts required. Children from six months to six years should be immunized now.

At the present time, there is available through most drug stores diphtheria toxoid which requires only one dose for immunization of the individual. This toxoid should be purchased from drug stores where it is kept in a refrigerator at a temperature between 38 and 50 degrees F. Toxoid that has been kept in an ordinary candy case or in the merchandise shelves is of no value as the toxoid is very sensitive to heat and rapidly loses its power to immunize through prolonged exposure at room temperature. Diphtheria cases reach their maximum number during the month of October, shortly after the schools open in the State of Mississippi.

The State Board of Health appreciates the splendid cooperation given by the general public and the physicians of the State in bringing about this warranted reduction in death and cases of this deadly disease.

Pellagra showed a 2 per cent increase in cases during 1933 which is undoubtedly due to the economic status of the people. It is gratifying to note that there was a 20 per cent decrease in deaths reported in 1933 under 1932, which is good evidence that the general population is becoming educated as to the proper diet for the cure of pellagra once it has occurred.

One of our contributing editors, Dr. F. M. Acree, is on a tour of Europe. We wish him a pleasant and a profitable vacation. We trust that we may have an account of his tour when he returns for The Mississippi Doctor.

Our charity hospital system is obsolete. It has served well in its day, but is not practical now, not a bit more than a yoke of oxen and a bull-tongue plow. Medical service must be carried out to the commercial firing lines and the rank and file must be served.

GILBERT J. LEVY, M.D.

Practice Limited to Diseases of Children
and Communicable Diseases.
Suite 224, 20 S. Dunlap St.
Memphis, Tenn.

Fifth Annual Medico-Military Symposium

The 1934 Medico-Military Symposium for Medical Department Reserve Officers of the Army and Navy will be held at the Mayo Clinic, from October 7th to 20th, both dates inclusive.

This is the Fifth Annual Inactive Duty Training Course to be held at The Mayo Clinic and will follow the plan which has proven so satisfactory in past years; that is to say, the morning hours will be devoted to attending clinics on subjects selected by the student officers, and the afternoon and evening hours given over to work in Medico-Military subjects. The Medico-Military Program will be under the personal supervision of Colonel Kent Nelson, M.C., U.S. Army, Corps Area Surgeon, Seventh Corps Area, and Captain J. B. Mears, M.C., U.S. Navy, District Medical Officer, Ninth Naval District.

The staff and faculty of The Mayo Clinic have placed their unexcelled facilities at the service of their Government in the interest of preparedness and have extended an invitation to all the service to participate. The two weeks' excellent clinical post graduate work must make a definite appeal to all who are interest in their profession and does not incur as great a loss of time for the private practitioner that normally pertains to post graduate work along professional lines.

The general motif of the Medico-Military part of the Symposium will be "Public Health and its Relation to National Defense." The problems of administration in military service presents features not dealt with in private practice. In the great field of sanitation as applied to military service, the medical officer has a distinct specialty. This course offers valuable and interesting training for the medical officer in all the components of our national defense. A splendid program of a thoroughly practical nature has been carefully compiled and the speakers selected for their ability to present authoratively the subject assigned to him.

Application for this course of Inactive Duty Training should be made either to the Corps Area Surgeon, Seventh Corps Area, Omaha, Nebraska, or to the District Medical Officer, Ninth Naval District, Great Lakes, Illinois. Applications should state the character of the work the candidate desires to follow in the morning hours. All student officers are expected to attend and participate in the afternoon and evening sessions. Each applicant should fully understand that the invitation to accept this course of study without charge is extended by the Mayo Clinic; that the project is without expense to the Government; and that one hundred hours' credit will be given those who take and complete the course. While it is desirable to attend the entire course, those whose time will not permit this may join or leave at any time and will receive credit for the hours spent in training. Uniforms are optional.

We believe that if we had Dr. Felix J. Underwood as Surgeon-General he would work out a plan that would solve our problem of malaria which is one of our gravest from the standpoint of health and economy.

What Did Napoleon Die Of?

Interest in Napoleon Bonaparte's last illness seems to be perennial. It should not be too difficult a matter to reinterpret in the light of modern knowledge the postmortem records of the line, but it is not only a question of imperfect knowledge but of the desire to make the best of a case on the part of observers of different political sympathies. It was natural for the British Government of the time to support the view that their captive was enjoying the salubrious climate as far as was compatible with his position and equally natural for his own staff to make out that his illness arose entirely from the climate of St. Helena. Twenty years ago, however, it was generally agreed that Napoleon died from cancer of the stomach and that his physicians were to blame for failing to make even an approximate diagnosis of his condition during life. But in a lecture delivered before the Hunterian Society in January, 1913, Sir Arthur Keith made out a case for his view that, while Napoleon suffered from a cancer of the stomach at the time of his death, there was good evidence to show that he was also the subject of a second disease—namely, an endemic fever, causing symptoms of inflammation of the liver, similar in its nature and effects to a chronic form of undulant fever. These symptoms, he suggested, masked those of cancer and misled Napoleon's physicians just as they would mislead the majority of physicians today. In a learned thesis published in the same year Dr. Arnold Chaplin argued that contemporaneous reports could not be relied on implicitly and that the real opinions of the medical men must be sought in their uncensored daily notes, which he found in the Lowe Papers deposited in the British Museum. According to these the postmortem examination clearly showed an extensive malignant growth of the stomach, probably starting from a previously existing chronic ulcer. In the report of appearances on the dissection of the body of Napoleon Bonaparte, reprinted in JOHN BULL (Oct. 13, 1822), we read: "The internal surface of the stomach, to nearly its whole extent, was a mass of cancerous disease or scirrhus portions advancing to cancer. This was particularly noticed near the pylorus. Strong adhesions connected the superior surface, particularly about the pyloric extremity, to the concave surface of the left lobe of the liver and, on separating these, an ulcer which penetrated the coats of the stomach was discovered, one inch from the pylorus sufficient to allow the passage of the little finger."

Now Professor Tauno Kalima has been going over the evidence once more (*Acta Chir. Scand.*, 1932, lxxii). In the autumn of 1923 he happened to read "La Captivité et la Mort de Napoleon," published in 1921 by Paul Aretz, and this coincided with certain studies he was making on the pathologic anatomy of the stomach. The records of the medical men who had attended Napoleon during his last illness came to Kalima as a great surprise; for here he found the characteristic clinical and pathologic picture, not of cancer, but of ulcer of the stomach—a condition whose nature was not understood by medical science in Napoleon's time. It was not till 1829 that Cruveilhier published his first paper in which he described ulceration of the stomach as a disease distinct from

cancer of the stomach. Napoleon himself suspected cancer; his father and his two sisters were supposed to have died of cancer of the stomach, and this familial factor was accepted as collateral evidence in favor of the diagnosis of cancer in the Emperor himself. It is commonly assumed that as early as the battle of Waterloo Napoleon had begun to suffer from the disease from which he ultimately died. But Professor Kalima puts the appearance of the first symptoms as late as the end of September, 1817, when Napoleon felt a dull pain in the region below the right costal arch. Next day he complained of similar pain to Dr. O'Meara, who notified Sir Hudson Lowe, adding that if other symptoms supervened there would be reason for fearing disease of the liver. Napoleon died on May 5, 1821, his disease having lasted about three and a half years. It was characterized throughout its course by the typical clinical picture of gastric ulcer, with periodic attacks of dyspepsia, increasing anemia doubtless due to occult hemorrhage, and marked irritability of the stomach betrayed by daily attacks of vomiting and severe pain. The immediate cause of death was a profuse gastric hemorrhage. He lost much weight during the last few months but he was never jaundiced, and the necropsy failed to show any malignant secondary deposits. The postmortem report on the condition of the stomach must today, says Professor Kalima, be regarded as a text-book description of chronic nonmalignant ulceration of the stomach.

The same view of Napoleon's last illness has been brought out by a discovery of the memoirs in two volumes of Dr. Walter Henry, an assistant staff surgeon to the British Garrison at St. Helena during Napoleon's imprisonment. Mr. George A. Kingston, who has published a note about it in a Canadian medical journal, tells us that Dr. Henry was present at the autopsy and writes of what he actually saw. Dr. O'Meara had diagnosed the liver as the faulty organ, and this was also the view of Dr. Antommarchi, although Napoleon himself referred the mischief to his stomach. In this, to quote Dr. Henry's words, "he was perfectly right, as the event proved. This organ was found most extensively disorganized; in fact it was ulcerated all over like a honeycomb. The focus of the disease was exactly the spot pointed out by Napoleon—the pylorus, or lower end, where the intestines begin. At this place I put my finger into a hole made by an ulcer that had eaten through the stomach, but which was stopped by a slight adhesion of the adjacent liver. After all, the liver was found free from disease, and every organ sound except the stomach." Antommarchi, Dr. Henry states, was about to put his name to such a bulletin when he was dissuaded from doing so by the French officers present as it would contradict the diagnosis of Dr. O'Meara. Dr. Henry went on to assert that there was in St. Helena no such disease as the gastrohepatitis from which it was stated that Napoleon died.

Our secretary, J. M. Acker Jr., seems to be moving along nicely in his new field of service as Superintendent of the State Hospital for the Insane at Jackson.

On to Houlika for the September meeting. It will be one of the biggest on record.

The challenge to the medical profession is application and education. Heart disease holds the first place as a cause of death. We are not getting so far with the problem. The people must be taught to live differently. We know the cause of malaria and the remedy in the average case, but it is gaining on us. The average doctor must be more thorough in his diagnosis. Preventive measures must be taught through the country weekly. The medical profession should be back of the instruction and the national and state government should help financially. The depression has given a back set to the fight on tuberculosis. Again the medical profession must be more alert and financial aid must be more liberal. Team work in the application of the known medical science and education of the masses is the challenge.

The Mid-South Post Graduate Medical Assembly will no doubt have even a better program this winter than it has ever had. It is one of the very best medical meetings in the entire United States. It is a great treat to the Mid-South. The doctor who fails to attend is cheating himself and his clientele.

If the teachers of Mississippi could be taught that malaria is conveyed by the mosquito and not by "bar water" we could have a better chance to make more progress in the fight against this expensive parasite.

Get a cut of your hospital and a write up of what you have and send it in. We want to run it in The Mississippi Doctor. It will not cost you much. It will be good for the hospital cause.

Dr. W. M. Adams, formerly associated with the Anderson Clinic at Booneville has opened an office in Memphis with his practice limited to plastic surgery.

A new instrument to aid in straightening cross-eye in children has been designed by scientists at the University of California.

The mule was the advanced guard of the separate drinking cup, and the cow for the extra salt for an aid to extreme heat perhaps.

The ancient surgical operation of cutting a hole in the skull to remove pressure or "let out the evil" is still practiced in Algeria.

Dr. A. G. LeRoy of Georgia who recently finished internship in Chattanooga is now associated with Anderson Clinic at Booneville.

Doctors have been counting the pulse by watches ever since 1690.

About two-thirds of the hay fever cases occur in the fall.

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THE MISSISSIPPI DOCTOR

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MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

VOL. 12

BOONEVILLE, MISSISSIPPI, SEPTEMBER, 1934

NO. 4

Lord help me live from day to day
In such a self forgetful way
That even when I kneel to pray
My prayer shall be for others.

Help me in all the work I do.
To ever be sincere and true
And know that all I'd do for you
Must need be done for others.

Let self be crucified and slain
And buried deep; and all in vain
May efforts be to rise again
Unless to live for others.

And when my work on earth is done
And my new work in Heaven's begun
May I forget the crown I've won
While thinking still of others.

Others, Lord, yes, others
Let this my motto be,
Help me to live for others
That I may live like Thee.

—C. D. Meigs.

The cereal-starch of PABLUM is more quickly digested than that of long-cooked cereals

FOR many years it has been the custom to cook infants' cereals one, two, and even three hours to increase their digestibility. The microscope (and clinical tests*) now prove that this bothersome and expensive long cooking is unnecessary with Pablum. For, being pre-cooked at 10 pounds steam pressure and dried, it is so well cooked that it can be served simply by adding water or milk of any temperature. Photomicrographs and also digestibility studies *in vitro* give evidence of this thorough cooking.

Fifteen cereals (both cooked and uncooked) studied microscopically were revealed as containing many starch granules, most of them massed into dense clumps. Such unruptured clumps were never observed in hundreds of examinations of Pablum. The latter consists, rather, of porous flakes which, like sponges, drink up liquids. Hence Pablum can be entirely saturated by the digestive secretions. This is borne out by studies of Ross and Burrill who found that the starch of Pablum is more rapidly digested than that of ordinary cereals cooked 4 hours.

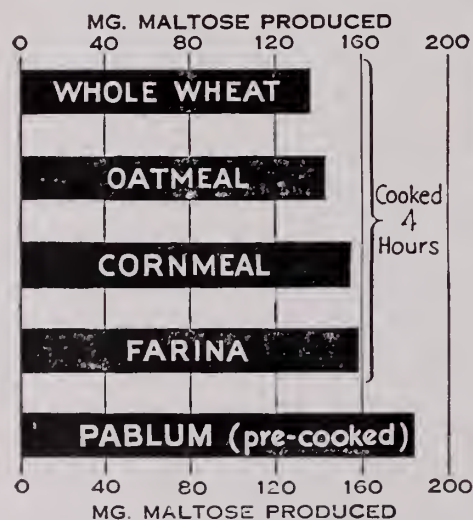


*Chart shows that maltose production is much greater for Pablum prepared with cold water than for other cereals cooked 4 hours. Ross and Burrill (Journal of Pediatrics, May 1934) conclude from this and from the total soluble carbohydrate formed that starch digestion of Pablum is more rapid than that of 6 other cereals.

Please enclose professional card when requesting samples of Mead Johnson products to cooperate in preventing their reaching unauthorized persons



Large photomicrograph: Pablum mixed with cold water—portion of large flake. Pablum flakes are honeycombed with "pores" or air-spaces (note light areas A). This porosity permits ready absorption of digestive fluids by the entire flake. No starch granules are visible—they have been completely ruptured.

Inset: Farina cooked $\frac{1}{2}$ hour—clump of cereal composed of unruptured starch granules. Note density of clump and lack of porosity. Many starch granules, such as are present in raw cereal, remain unchanged in form.

BESIDES being thoroughly cooked and readily digestible, Pablum supplies essential vitamins and minerals, especially vitamins A, B, E, and G, and calcium, phosphorus, iron, and copper. It is a palatable cereal consisting of wheatmeal, oatmeal, cornmeal, wheat embryo, alfalfa leaf, beef bone, brewers' yeast, and salt.

*Reprint of Ross and Burrill paper sent on request of physicians.

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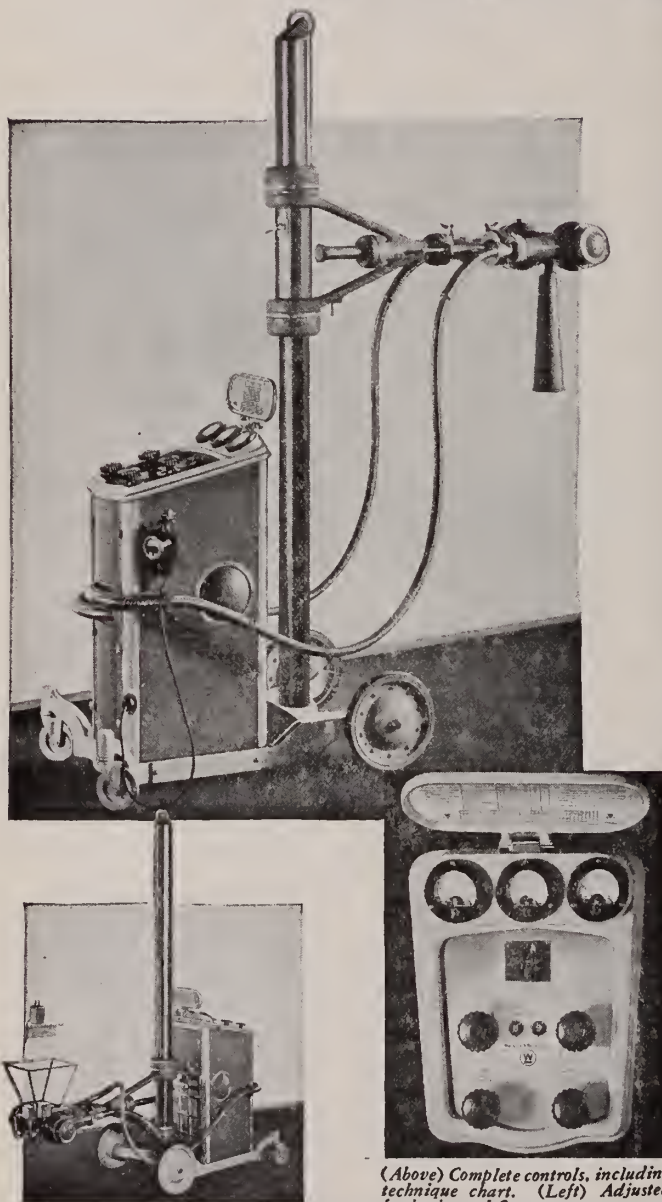


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EDITORIALS

You will read with much interest the list of invited speakers for the Mid-South Post Graduate Medical Assembly to be held at the Peabody Hotel in Memphis in February. This is perhaps the strongest line-up of speakers the association has ever offered. The Mid-South is now recognized throughout the nation as one of the best associations. It is different to any other. It meets at the same place each year, at the Peabody Hotel, the pride of the Mid-South. In lecture form by the authorities of America the field of medicine and surgery are covered in a four day session. The information brought is technical enough for the specialist and general enough for the practitioner. It has a broadening influence over both. What one gets both get. The heart of the subject is covered by the speaker uninterrupted. At the round table talks every person has an opportunity to ask questions on any phase of any subject. It is indeed a great association. It offers a wonderful opportunity to the profession of the Mid-South. The one who misses it is a great loser, loser for himself and for his clientele.

In addition to the very best scientific program that can be offered, it is good to breathe the spirit of Memphis, the city of growing opportunities and the nestor of southern culture and southern hospitality. It is good to imbibe the fraternal entertainment of the medical profession of Memphis. They stand first in real cordiality. For the big success of the Mid-South much credit is due the doctors of Memphis. They have cooperated most graciously. We are, of course, always indebted to the program committee of which Dr. Buntyn is chairman and Dr. Cooper secretary. This year Dr. Rychener is a very active member. We are setting fifteen hundred as the goal for attendance this next meeting. Make up your mind now to attend. Read the advanced program, see what you have in store.

You will read with interest the account of the reorganization and improvement of the Ole Miss Medical Department in this issue of the journal. There is no better two year course offered in the country that we know about. Dean Mull is to be congratulated. Note the faculty of the school. We are grateful to the Governor of Mississippi and the legislature in taking care of this school for the young men of Mississippi. This two year course has always had a high standing. The students have made good other colleges and before state boards. They have been taught to work. This school was started right. It breathed the Leathers spirit for years, some of it left yet. He was a master instructor and for efficiency he was its essence. Dr. Mull has wrought well for this school. He is thorough and he contacts the medical profession at their meetings so as to keep in touch with the practical side. It is a fine democratic spirit at Ole Miss. The doctor needs to be democratic. He needs to know people as well as the bacteria that attacks him. Chancellor Hume is a princely character, courtly, courteous, dignified, scholarly, broad minded and kind hearted, a Christian citizen. Whether he speaks a word his mental electrons invigorate the atmosphere. This school is giving attention to the type of young man it selects as a stud-

ent. It takes into consideration both heart and mind, and the yearning to render medical service.

Internships in charity hospitals have their value to be sure. But the average interne has plenty to "unlearn" when he gets out. One intern learns to wait on the other, he learns to wait on the orderly to do many things he will have to do for himself when he gets out. He depends upon the nurse, it is a shame. He thinks a patient can wait until tomorrow just as well and he has no right to think otherwise. He feels like the world is forced to have his services and he will condescend to let it have a small portion each day if he feels like it. His salesmanship has had no development whatever. For the practice of preventive medicine and preventive surgery this is of the greatest importance. No man can practice medicine successfully unless he has some salesmanship. He must sell enough of himself to make a living and he must sell his knowledge sufficiently to have his prescribed treatment carried out. The average interne in the average charity hospital is taught the grossest extravagance. What difference does it make how much gauze, adhesive and bandage and stains he uses. It comes easy from the state. Internships in charity hospitals are indispensable we are quite sure, but the interne needs to have a new deal. Courtesy, economy, industry and salesmanship should be developed in the interne.

In the war on depression the medical profession holds a key position. Every day the doctor has some patient or several whose sickness from infection is complicated with some form of "depression psychosis." It can not be ignored. The human body reactions reacts against the invasion of bacteria, against the poison they cause, it also reacts against situations and conditions that embarrass him in his accustomed standing in his niche of human society. The utilization of our man power is our most important economical problem. The doctor can help in placing a man in position where he can gain a livelihood and at the same time, will not endanger his health so much. He can help to evaluate how much of the man's disability is due to the laboratory bacteria and how much to the germ of depression. The opportunities and the responsibilities of the medical profession have been multiplied over and over within the last few years. Human society and human disease are calling for the broadly educated doctor as well as the technically trained. To meet this demand the medical schools must make many adjustments. The medical student must be taught to study the individual human patient. Some way his interest in the individual sick must be made keener and more sincere. He must learn to study him in all of his relations to his surroundings. To go to the bottom we must look to the study of the individual bacteria in his fight against the individual human organism. The medical schools must become humanized. They will meet the demands it is quite sure, that is if they can survive the Ph.D. for a period.

Remember Wednesday of next week, September the 12th. Let your watch word be on to Houlka. The date has been moved up due to the election coming on our regular meeting date, the third Tuesday.

This is not the age of individual ideas in the medical profession, it is the age of team work. It often takes the entire profession to give birth to a productive thought. In fact this is so often true. Of some one man has to see the vertex of the thought presenting.

You will be pleased and profited by every paper in this issue of the journal we are quite sure. The Mississippi Doctor strives to cover the field of medicine and surgery. It also encourages the discussion of other medical problems as well as technical information.

If the laity can be convinced that the mosquito carries the malarial parasite, we can then make some progress on its eradication. Persistent pounding through the country weekly is the best means to get it over.

The Southern Medical Association steps over to Texas this year for its annual session in November. It will be fine to be there and catch a breath of that Texas spirit.

The problem of malaria is one of the gravest we yet have in the Southern states. We are not whipping the parasite with our present procedure.

Civilizations have fallen because of the failure of man to develop a knowing how to live proportionate to his material achievement.—A. V. Kidder.

May the Lord of human mercy and human economy save the medical schools from the Ph.D. who has no other qualifications.

Dr. G. S. Bryan might be said to be the corner stone of the North East Mississippi 13 County Medical Society.

On to Houlka. It will be good to be there. Friday, September 14th.

Every county medical society should have a department in their country weekly to inform the laity on health.

Dr. Copeland writes as tho malaria was already whipped in the South. We wonder if he is as poorly informed on other problems of the south.

Everything else being equal please trade with the firms who advertise in The Mississippi Doctor. This is not asking too much, not if you have an interest in your journal.

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2234 Highland Avenue
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Paraplegias: Their Significance In General Practice*

GEORGE B. HASSIN, M.D.

Professor of Neurology, University of Illinois, College of Medicine; Attending Neurologist, Cook County Hospital
Chicago, Ill.

The subject of paraplegia, that is, a paralysis of both lower or both upper extremities associated in the spastic form with rigidity, exaggerated reflexes, Babinski, Rossolimo and similar signs is vastly dealt with by neurologists, orthopedic surgeons, obstetricians, pediatricians, neurological surgeons and medical men in general. The reason for the great interest in this condition lies in the fact that spastic paraplegia is not a disease entity. Just as abdominal pain, elevated temperature or cough are not clinical entities, but mere symptoms or signs, so is paraplegia only a sign of some disease of the spinal cord, peripheral nerves or, which is rarer, of the brain.

In the type of paraplegia known as flaccid, the paralyzed extremities are limp, exhibit no resistance to passive movements and the tendon reflexes as well as Babinski and similar signs are absent. Such a paraplegia is always a disease of either the gray matter of the spinal cord, as it occurs in poliomyelitis, lumbar myelitis, or of the peripheral nerves (polyneuritis).

From the foregoing one may conceive an idea of the vastness of the subject "paraplegia" and of the great difficulties that may be encountered in its differential diagnosis. Disregarding for the present the flaccid type, which is comparatively rarer than the spastic type and, in general, offers fewer diagnostic difficulties, I shall briefly illustrate only the most important varieties of the spastic form of paraplegia.

It occurs in diseases of the brain, spinal cord, meninges including their spaces (epidural, subdural, subarachnoid) and the surrounding bony structures. Even the skin may, under certain conditions, affect the spinal cord and produce a spastic paraplegia, while a modified form without Babinski sign may also occur in hysteria.

Of the diseases of the brain in which spastic paraplegia is a typical manifestation I should mention so-called Little's disease. It occurs in infants at birth. Either instrumental or delayed delivery, asphyxiation or disturbances during pregnancy and confinement may cause an injury to the brain. The injury may result in a bilateral paralysis of both upper and lower extremities, termed quadriplegia (tetraplegia, or bilateral hemiplegia). Other lesions of the brain that may cause such a type of spastic paraplegia, which should be termed cerebral, are syphilis of the brain with involvement of extensive areas of the white cerebral substance, and some subacute and chronic conditions generally described as encephalitis.

Of much greater significance, because more common, are the paraplegias produced by diseases of the spinal cord and its neighborhood structures. Such diseases as syphilis of the spinal cord, multiple sclerosis, syringomyelia, amyotrophic lateral sclerosis, subacute combined degeneration of the cord, intramedullary spinal cord tumors, may all be manifested by a spastic paraplegia. That is to say, the latter may for a long time be the sole manifestation of any of the foregoing disease processes which, being purely neurologic problems and often difficult to differentiate, should be handled by neurologists only. Of much wider and therefore more practical interest is the group of lesions which are situated not within the spinal cord, but outside the latter. With this group are included diseases of structures surrounding the cord. Here belong epidural abscesses, Pott's disease, extraspinal cord tumors, including gummata, lymphosarcomas, lymphoblastomas, carcinomas, adhesive arachnoiditis and other morbid states. Some of such



Fig. 1. The spinal cord (L.L.L.) is separated from the lamina and epidural fat (E) by a mass containing several abscesses (A.A.A.). At D is the dura, thickened and separated from the cord by a wide subarachnoid space. The spinal cord shows areas of rarefaction. At R, are the anterior and posterior roots.

*From the Neurological Service and the Division of Neuropathology, University of Illinois, College of Medicine.

*Read before the Fiftieth Annual Session of the Mid-South Post Graduate Medical Assembly, Feb. 15, 1934, Memphis, Tenn.

extraspinal conditions will be illustrated by clinical cases.

1. Epidural abscess (peripachymeningitis).

The most remarkable and a very dangerous instance of spastic paraplegia occurs in an epidural suppurative lesion known as peripachymeningitis. As the picture shows (fig. 1), in this condition there is present an enormous proliferation of the epidural connective tissue. The specimen comes from a girl, aged 21, who had been suffering from furuncles of the face, neck, rectum, chest, buttocks and spine. Following a prolonged physical exertion, the patient experienced for four days a severe pain in the back and chest which was followed by numbness and paralysis of the lower extremities with inability to urinate. The paralysis was in the form of a complete paraplegia of the lower extremities with a bilateral Babinski sign and anesthesia up to the level of the twelfth thoracic spinal segment and was associated with rectal and urinary retention, elevated temperature, vasomotor and trophic disturbances. On the morning set for the operation, about five days after the onset of the disease, the patient died suddenly from a pulmonary embolism.

The necropsy revealed between the periosteum of the eighth and ninth thoracic vertebrae and the postero-lateral surface of the dura a mass of granulation tissue. It contained several abscesses from which the staphylococcus aureus microorganism was isolated. The spinal cord was of normal shape; the spaces around the cord were patent but were obliterated around the spinal roots. The tissue of the spinal cord itself was rarefied and the rarefaction was the cause of the paraplegia and the other clinical phenomena mentioned above. Had not the patient died suddenly, an operation for removal of the epidural masses enclosing the abscesses probably would have saved her life and relieved the cord symptoms. Such instances have repeatedly been recorded in the literature.

2. Pott's disease.

A clinico-pathologic condition similar to the one just described occurs in any other epidural lesion, Pott's disease, for instance. Here either a spastic or flaccid paraplegia may occur. In the former, the spinal cord, though damaged, is still capable of performing its functions. Thus, the reflexes are active, even hyperactive; the sensibility and the function of the genito-urinary organs are normal and trophic disturbances are not present. Such a clinical picture is a strong indication for the removal of the cheesy tuberculous masses which pressing on the dura produce the same effect on the spinal cord as an epidural abscess. On the other hand, a flaccid Pott's paraplegia in which the tendon reflexes are lost, anesthesia is complete, genito-urinary and trophic disturbances are pronounced, denotes a destruction of the spinal cord. In the presence of such a condition, an operation is useless and therefore contraindicated.

Another instance of epidural distress that should be considered available for possible surgical interference is,

3. Lymphoblastoma (Hodgkin's type).

A man, aged 68, with negative family and personal histories, had been suffering from pain in the

dorsal region, of three weeks' duration, which radiated bilaterally toward the anterior abdominal wall. About one month later he noticed unsteadiness and weakness in the legs, especially the left one. The pain was continuous, very severe and deprived the patient of his sleep. It was in the form of a band approximately around the ninth or tenth dorsal vertebrae and was associated with slight retention of urine. Neurologic examination revealed exaggerated reflexes, a bilateral ankle clonus, a bilateral Babinski sign, which was more marked on the right side, diminished pain and temperature sensations over both legs, especially below the knees, with preservation of the tactile sensibility; the presence of a narrow zone of hyperesthesia above the tenth dorsal spinal segment and absence of hypersensitiveness over the spinous processes of the vertebral column. A diagnosis of pressure on the spinal cord, probably by a tuberculous spondylitis, was apparently confirmed by a roentgenogram. An operation for the relief of the pressure was suggested and carried out by Dr. DeTarnowsky and Dr. Sarma. A marked edema of the spinal cord was found by them after the removal of the eighth, ninth and tenth dorsal vertebrae. The swelling of the cord was so marked that the surgeons experienced considerable difficulty in introducing a rongeur or any other instrument between the cord and the spinous processes. Marked improvement followed the operation. Thus, the function of the bladder and bowels became normal; the pain disappeared and the perception of the pain and temperature became much better five days after the operation. The motor function improved only slightly—the patient was merely able to move the toes and both feet from side to side, especially the right.

The patient was discharged greatly improved two weeks following the operation. Unfortunately, the condition became worse two weeks later and another laminectomy was advised. This again revealed edema of the spinal cord, but unlike the first laminectomy, it failed to relieve the patient's condition. It grew worse from day to day; urinary complications set in, in the form of ascending pyelitis, and one month after the second operation the patient succumbed.

The neuropathologic examination of the spinal cord revealed two lymphocytic tumors in the epidural space which consisted of lymphocytes, giant cells and few fibroblasts. They were situated at the level of the ninth spinal segment, partly encircled the spinal cord and in some areas was enclosed within the dural layers. In other areas, they were closely adherent to the arachnoid membrane, but they did not obliterate the subarachnoid space which remained patent. The spinal cord itself was not compressed; it preserved its configuration and size and the gray matter was sharply delimited from the white substance. This appeared reticular, sieve-like, especially in the lateral columns, which consisted of numerous vacuoles of equal size, mostly empty, but some containing broken up nerve tissue. The gray matter exhibited no vacuolation, but it was very cellular and contained numerous round nuclei (oligodendroglyocytes) mixed with cytoplasmic astrocytes. In short, the spinal cord, at the level of the lymphogranuloma, was reticular, sponge-like and revealed signs of nerve degeneration. The ganglion cells of the gray matter were preserved; the posterior roots were infiltrated.

The segments above and below the foregoing level exhibited no changes whatever. The vacuolation in the affected segments were not due to vascular lesions, but to the disturbance of circulation of the tissue fluids of the spinal cord and their draining.

The interesting feature of this case was the smallness of the tumors. They did not transgress the pia-archnoid; yet they produced quite evident pathologic and still more evident clinical manifestations. As general necropsy was not permitted, it was not possible to detect the source of the epidural lymphogranulomas which probably arose in the epidural space primarily. Nor did the blood or physical examination reveal anything suggestive of leukemia elsewhere in the body.

The question naturally arises whether the patient's life could have been saved, had the epidural tumor masses been removed. A complete recovery probably could not have been expected as the spinal cord presented evident signs of degeneration. That is to say, it is not possible to restore the patient with such cord lesions to complete health, but it is possible, at least in some cases, to preserve the patient's life if the dangerous urinary complications can be prevented. This is well illustrated by the following case, also one of lymphoblastoma.

4. Lymphoblastoma (aleukemicum).

Dr. S., single, aged 42, was admitted to the Research Hospital on Feb. 11, 1933, because of pain in the spinal column of about three weeks' duration and paralysis of the legs of about two weeks' standing. The pain was in the form of a constriction and radiated across the back. It increased from a supine position, coughing, straining or moving the body from side to side. Strapping the back or application of heat (infra red lamp) would relieve the pain which was for a long time considered to be due to pleurisy or other chest troubles.

The pain was in the back; it was "sudden," burning, very severe, like a "boil when one touched it." It was followed by muscular weakness which very soon, within three days, developed into a complete paralysis of the lower extremities (paraplegia) associated with anesthasias and urinary disturbances (retention).

Neurologic examination at the Research Hospital revealed a complete paraplegia of the lower extremities; the tendon reflexes (knee, achilles) were exaggerated; Babinski sign was present; the abdominals were absent, while the sensibility was practically intact, excepting the vibratory sense which was lost. Lumbar puncture revealed a complete block; the fluid was xanthochromic and contained 17 cells; Pandy was 3 plus and the total protein was from 46 to 80 mg. per 100 c.c., i.e., within normal figures. A diagnosis of a tumor of the spinal cord was made and an operation performed by Dr. Eric Oldberg on Feb. 13, 1933, revealed a tough, moderately vascular, lymphocytic tumor outside the dura at the level of the ninth thoracic segment. It almost enveloped the spinal cord and extended to its anterior aspect. The spinal cord itself appeared normal; it pulsed slightly and the subarachnoid space was obliterated. The patient was discharged in a good condition seven weeks after the operation. The pain subsided, the sensibility gradually became normal and the bladder

and rectum controls returned, but the muscular weakness and spasticity remained stationary, and only with the greatest difficulty could the patient move about. Under roentgen treatment, which was given every four weeks, the patient was slowly improving, and at the present, almost one year after the operation, he, though still spastic, is able to move about and take care of his office practice. It is needless to state that the pain disappeared entirely and that the general condition, including the function of the rectum and bladder, became entirely normal.

The changes in the spinal cord of this patient are undoubtedly of the same character as described in the previous case. They can not be cured, but by removing the epidural masses, by instituting roentgen treatment and using other therapeutic measures, such as physio-therapy, mechanotherapy, it is possible to arrest the progress of the lesion and thus enable the remaining healthy tissues of the spinal cord to adjust themselves and cause the cord to function properly and thus render the patient's condition tolerable. Were the changes in the spinal cord of such patients due to vascular causes in the nature of softening (myelomalacia), one could not expect improvement at all from an operation, for even an early and complete removal of the pressure from the epidural space could not have affected favorably the softening. This would have remained either unchanged or, as it is usually the case in myelomalacia, would have progressed and the disturbances of sensibility and bladder and rectum would have remained permanent. Evidently the cause is not that of softening, but, as repeatedly pointed out elsewhere, it is due to stasis of the tissue fluids of the spinal cord. By removing the tumor from the epidural space, the discharge of the fluids from the spinal cord is maintained, leading to improvement in the function of the cord as pointed out above.

5. Epidural carcinoma.

When the epidural lesions are not removable, as is the case with malignant tumors, carcinoma or sarcoma, the prospects are, of course, not so bright. The changes are well shown in figure 2. The specimen comes from a girl, aged 25, who had been admitted



Fig. 2. The spinal cord is enveloped by epidural carcinomatous masses.

to the Research Hospital on July 20, 1933, and died there October 10, 1933. In 1930 she had two attacks of pleurisy and one year later a third attack. She had had roentgen treatment for a tumor in the left chest. In May, 1933, pain in the back appeared, which radiated "everywhere" and was followed a few days later by a sudden numbness and weakness in both legs, inability to walk, urinary disturbances and paralysis of the rectum. On examination, the patient exhibited paralysis of both lower extremities, absence of knee and achilles reflexes, anesthesia to pain pricks which extended from the toes to about the level of the fourth thoracic vertebra; loss of position sense in the toes; and a normal condition of the cranial nerves and the upper extremities. On Sept. 6, 1933 a Horner syndrome appeared on the right (the right pupil and the palpebral fissure became narrow and the eye bulb became retracted) and afterwards on the left. This indicated an extension of the process to the dorso-cervical region. At the operation, the tumor was found encircling the cord at the level of the seventh cervical and the two upper spinal thoracic segments. A histologic examination showed it to be a metastatic carcinoma. Necropsy revealed (Fig. 2) an enormous tumor outside the dura. It did not invade the membranes or the spinal cord but the latter was rarefied throughout.

The clinical picture so well marked and easily understood in the presence of an evident gross pathologic process, may be produced by much milder phenomena. For instance, adhesions between the pia and the arachnoid even in the form of tiny threads may give a clinical picture of spastic paraplegia. Clinically it differs very little from the cases in which the adhesions are pronounced. The two following instances illustrate this point.

6. Adhesive arachnoiditis.

Mrs. B., was admitted to the Research Hospital of the University of Illinois on March 22, 1932, because of weakness of the right lower extremity, hip and back, of about three years' duration. The symptoms began as paresthesias which were followed by pain and rigidity of the right knee. The rigidity extended to the right hip and back and could be relieved by the patient lying on her back. In walking the affected leg was being dragged; the toes were catching the floor and the steps were small. Examination revealed weakness and rigidity of both legs, especially the right, and absence of marked sensory disturbances. Of these there were present only impaired tactile discrimination in both legs, a slightly impaired position sense in the right toes and loss of vibratory sensibility. The patellar and ankle jerks were exaggerated. A roentgenogram of the spinal cord exhibited no changes. The cranial nerves were also normal. A spinal puncture revealed no block; the serologic tests including the total protein estimation were negative. Repeated examinations revealed an indefinite sensory level corresponding to the ninth thoracic segment on the right and the tenth thoracic segment on the left. An operation for possible adhesions was performed. The entire exposed field exhibited extensive adhesions between the pia and arachnoid membranes which were separated. Unfortunately, the patient developed a secondary abscess on her back to which she succumbed.

The necropsy revealed: adhesive arachnoiditis

which extended practically throughout the entire length of the spinal cord and multiple foci of degeneration such as seen in multiple sclerosis. In fact, such a diagnosis was quite justified by the specimens stained by the method of Weigert-Pal. However, at the middle dorsal level the spinal cord revealed, in addition to patches of sclerosis, also extensive areas of rarefaction which are altogether foreign to this morbid condition. In other words, the patient had both multiple sclerosis and adhesive arachnoiditis. That adhesive arachnoiditis may be complicated by other spinal cord lesions has been emphasized by Weisenburg and Muller. Had not the patient succumbed to the septic infection, she probably would have been relieved of some distressing signs and symptoms in spite of the multiple sclerosis. The latter morbid condition usually gives spontaneous remissions, while adhesive spinal arachnoiditis with proper treatment, may be cured entirely. This is well illustrated by the case which follows.

7. Adhesive arachnoiditis.

A girl, aged 14, was admitted to the Research Hospital of the University of Illinois, because of difficulty in walking and some pain in the calf muscles, of eight weeks' duration. The pain was experienced first in the right big toe and the right heel which exhibited a painless and afebrile swelling. The swelling was followed by an unsteady gait and weakness of both lower extremities. Notwithstanding the swelling and the weakness, the patient was up and around; attended school and did a great deal of dancing (Charleston) which she gave up only after the legs became rigid.

The examination revealed a spastic gait, weakness of the lower extremities, exaggerated tendon reflexes with a bilateral Babinski sign, patellar and ankle clonuses and impairment of the sensations for pain, temperature and touch in the legs and on the abdomen as high as the umbilicus. Rectum and bladder disturbances at the beginning were absent. The spinal puncture revealed a spinal block and the examination of the blood, urine, and the roentgenograms gave negative findings.

Within two months, the condition developed into a complete spastic paralysis of the lower extremities, with hypertonicity, exaggeration of the tendon reflexes and very indefinite and inconstant sensory disturbances which did not extend beyond the umbilicus.

Two months after admission to the Hospital and four months after the onset of the first symptoms, a laminectomy performed by Dr. Edmund Andrews at the level of the fifth to eighth thoracic vertebrae revealed in the subarachnoid space two cysts filled with gelatinous fluid. They were opened and emptied. Three weeks after the operation improvement began and about seven weeks following the operation, the patient walked out of the Hospital in an excellent condition. The rigidity disappeared, the patient was even able to resume dancing and the only remnants, two years after the operation, were exaggerated re-

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flexes, without a Babinski sign, rigidity, sensory or urinary disturbances.

8. Extravertebral hematoma.

I could bring forth many more cases that could illustrate even more strikingly the various etiologic factors in the causation of paraplegia. One particular case should be mentioned, for it is unlike any that has ever been recorded. It was a case of paraplegia following an extravertebral hematoma with an abscess. It came under observation of Dr. J. M. Dickinson of Coffeyville, Kansas. The patient, a boy, aged 16, was admitted to the South-East Kansas Hospital, Feb. 22, 1933, because of shooting pains in both lower extremities. Three days prior to the admission, while playing on a basket-ball team, he skidded and was struck in the back by the knee of one of the opponents, as he lay on the floor. He finished the game and complained only of some lumbar soreness. The next morning he experienced some pain in the back which gradually grew worse and in two days was followed by aching of the legs. The pains became so intense within the next twenty-four hours that the patient had to be brought to the Hospital. The attending family physician, Dr. Harris of Ganey, Kansas, found tenderness in the right lower abdominal quadrant and, as the patient vomited twice a few hours before, the possibility of appendicitis was considered.

The examination by Dr. Dickinson revealed a distended abdomen, tenderness over the appendical region, a deep productive cough which raised a considerable quantity of thick mucus mixed with greenish pus. The temperature was 101.2 degrees, the pulse rate was 92 and the respiratory rate was 22. The heart was normal; the lungs showed numerous rales over the right side and some rigidity and edema were found over the dorso-lumbar region, especially to the left of the spine. On the posterior aspect of the right leg an angry furuncle was present and the patient complained of severe pains in the legs.

During the following two days the bladder became distended and frequent catheterization was necessary; the lower extremities became numb and weak, especially the right where Babinski sign was elicited; the knee and tendo achilles reflexes were exaggerated and some diminution of sensibility including touch was demonstrable below the umbilicus. Lumbar puncture (Feb. 25) revealed a canary yellow fluid which was under normal tension and coagulated on standing, while a cistern puncture (Feb. 27) revealed a clear fluid with some red corpuscles in it. The roentgenogram (Feb. 26) exhibited a slight haziness to the left of the spinal column in the dorso-lumbar region. The muscular weakness grew worse, Babinski sign became bilateral; Chaddock and Oppenheim signs appeared, but the knee and ankle jerks were "weak." A band of hyperesthesia appeared at the ninth dorsal spinal segment, three to four inches wide, below which all forms of sensibility were decreased.

A diagnosis of "paraplegia with a spinal block in the lower dorsal region" was made. As the fullness in the dorsolumbar region became more apparent, an exploratory puncture was made on Feb. 28 and 50 c.c. of serosanguinous fluid was removed; the next day another puncture was done and additional 50 c.c. of serosanguinous fluid were removed. Staphylococci were found by culture. On March 2, 1933, an incision

with drainage of the large abscess cavity was performed. The cavity which was confined to the erector spinal muscle had no connection with the spinal canal but extended to the bony surface of the spinous processes and laminae.

The improvement was prompt the next day; incontinence soon disappeared and on March 8 (one week after the operation) the patient was able to walk and three days later was discharged. The neurological signs—hyperesthesia, Babinski and other signs, weakness in the extremity and a somewhat awkward gait—all disappeared within six weeks.

Dr. Dickinson ascribes the paraplegia to the extravertebral hematoma which after it became infected from the furnicle of the leg turned into an abscess. He "wondered whether the paraplegia was not due to edema of the spinal cord which was produced by improper drainage of the spinal cord fluids along the sheaths of the peripheral nerves," an entirely rational interpretation in my opinion.

In all the cases quoted above, except two of arachnoiditis, the obstruction to the outflow of the spinal fluid was in the epidural space. In the case of Dr. Dickinson, the obstruction was in the peripheral nerves, the perineurial spaces of which are continuous with those of the spinal roots, the subarachnoid spaces and the tissue spaces of the spinal cord itself. Theoretically an obstruction of the peripheral nerve spaces through which the spinal fluid escapes must indirectly affect the draining of the tissue spaces of

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the spinal cord and produce exactly the same phenomena as those caused by the obstructions of the epidural space. This subject was briefly summed up in my Chairman's address at the Milwaukee meeting of the American Medical Association and also mentioned in my book. More than any other case does that of Dr. Dickinson demonstrate the significance of paraplegias and how diverse and unusual the etiologic factors may be. Their proper evaluation may lead to intelligent surgical interference and the saving not only of the patient's life but also of his health and thus even lead to a complete recovery. As many paraplegias seem to be not of the surgical class and are difficult to classify, in short, are of a doubtful origin, an exploratory laminectomy is, in my opinion, fully justified in such cases. It can do no harm and may yield unexpected findings. For instance, in one case of long standing painful paraplegia, with a history of amputation of a carcinomatous breast, an operation revealed a tumor in the upper cervical region. It was not a carcinoma as suspected before the operation but a meningioma and the patient recovered entirely. In another case of paraplegia also of long standing, which had been diagnosed as subacute combined degeneration of the cord, multiple sclerosis, amyotrophic lateral sclerosis and similar conditions, an operation revealed an osteochondroma. My observations convinced me that even paraplegias due to syphilitic lesions of the spinal cord that do not yield to specific treatment, or such morbid conditions as syringomyelia should be treated surgically. In properly selected cases the results are as brilliant as in some of the cases mentioned in this paper.

Some features of the subject discussed in this paper are more extensively covered in several contributions:

Hassin, G. B.: Circumscribed Suppurative (Non-tuberculous) Peripachymeningitis. *Arch. Neurol. & Psychiat.* 20:110, 1928; Serous Spinal Meningitis (Circumscribed), *The Jour. Am. Med. Assoc.*, 92:877, 1929; The So-Called Circulation of the Cerebrospinal Fluid *ibid.* 101:821, 1933; Histopathology of the Peripheral and Central Nervous Systems, Wm. Wood and Co., Baltimore, 1933.

Weisenburg, T. H. and Muller, G. P.: Idiopathic Circumscribed Spinal Serous Meningitis, *Am. J. M. Sc.* 140:718, 1910.

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The Abortionist

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Dr. Rongey,¹ former president of the A. M. A., estimates that there are more illegal abortions every year in New York and Chicago than there are children actually born in those cities. Most of these operations are performed on otherwise respectable, law-abiding, married women. Proof enough that here is another social problem that can't be eliminated by legislation. No one wants to encourage the indiscriminate use of this grim practice. However, the lash of the law, instead of correcting the evil, only whips it into dark corners, creating a vicious class of criminal practitioners—bootleg doctors and ignorant midwives who work in the dark, back-room apartments. A saner, healthier attitude is that adopted by the Soviet government, which is fostering birth control education and instituting legal abortion clinics in a spirit best expressed by the motto inscribed over the door of one such clinic: "You are welcome this time, but we hope you will never have to come again." ("Men in White," page 108).

The most popular play, the most widely patronized movie, and the "best seller" among books, for the year 1933 was "Men in White"; a story based upon a young surgeon's escapade with a student nurse, ending in the death of the victim from infection following a criminal abortion. The author of this problem play was awarded the Pulitzer prize for the best book of the year 1933. Kingsley's statement is a challenge to the medical profession to do something about the increasing practice of fetal murder, or else we may expect the United States to be Russianized to the extent of legalizing and encouraging abortions among women of all classes. Hundreds of thousands of laymen have read this clever appeal for legalizing fetal murder. What will organized medicine do about this growing evil that concerns the medical profession more than any other class? The Medical Association of the State of Alabama, at its recent meeting in Birmingham in April, accepted Charles Kingsley's challenge by unanimously adopting a resolution calling upon its members and the solicitors and other county officials whose duty it is to enforce the criminal laws of the state, to join in an effort to punish criminal abortionists in Alabama.

There seems to be no doubt that it is easy to find doctors, trained nurses, and many who have had no medical training, who sell their souls for dollars, and whose service may be readily obtained to commit fetal murder. Apparently, the tribe of murderers known as abortionists is increasing; and it is high time that they be locked up in prisons just as are other criminals because the abortionist is a source of greater danger

¹. There has never been a President of the American Medical Association by the name of Rongey. There is an obstetrician and gynecologist by the name of Abraham G. Rongey of New York listed in an American Medical Directory, 1929..

to the community in which he lives than the average murderer. As a rule, the man with homicidal tendencies commits not more than one murder before he is caught or has to leave the community; while the abortionist may be guilty of taking the life of an embryonic human being every day, and his criminality causes many mothers to die or become invalids for life.

The crime of abortion is not confined to the unfortunate women who have sinned, but it is said to be a fact that among the wealthy classes, fetal murder is committed because pregnancy and the duties of motherhood interfere with social pleasures. Indeed, it is to the wealthy class of married women, who do not look upon the interference of pregnancy as a crime, that the abortionist looks for his largest fees. The influential woman who becomes pregnant in spite of her efforts to prevent conception, appeals to her physician for help; usually on the plea that she nearly died in giving birth to her first and only child. If the physician is a man of honor, and of high ideals, he explains the nature of the crime of abortion and its dangers. He appeals to the woman's sense of honor and points out to her the joys and privileges of motherhood. In many cases he succeeds in persuading his patient to follow the course of nature; but in others the woman tries another doctor, who has the commercial instinct to such an extent that he will commit fetal murder in order to gain the practice of an influential family. It is a sad fact that in every city there are doctors whose clientele is built up by

such practices, and they are the worst class of criminals in the community.

THE DUTY OF THE MEDICAL PROFESSION

It is amazing that abortionists continue their criminal practices for years without being brought to justice. It is difficult to prove the crime and it is a disagreeable duty to appear in court as a witness in such cases, so that many physicians who learn facts sufficient to convict an abortionist will not report them. Some physician say that they are not detectives and that they are not called upon to ferret out crime, but they have the wrong conception of duty. If they knew the whereabouts of murderers of men and women, they would feel it their duty to report it to the proper officer. Why not do the same with the abortionist, the worst and most dangerous criminal in any community? Of course, the entire responsibility of punishing abortionists should not rest upon the medical profession. Sheriffs, solicitors and judges should be the ones to enforce the laws, but physicians can do a great deal toward preventing this crime if they give clues that they get to those whose duty it is to apprehend and punish criminals. They can also help by persuading judges to charge juries that the crime of abortion is rampant in their communities: and that it should receive the same attention by the courts as larceny, murder, kidnapping and other criminal practices.

It is also the duty of the medical profession to educate the public, both men and women, regarding

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the dangers and the crime of terminating pregnancy without sufficient cause. Just how this may be accomplished is a question. The propriety of using the newspapers for this purpose is questionable; but properly worded articles could not offend more than the reports of divorce proceedings that are published daily. Ministers may help by discussing the subject from the pulpit as they do adultery and the other sins of vice. How the public should be informed on this subject is open to question, but there is no doubt of the need for the pregnant woman to be made to realize that she is particeps criminis with the abortionist in committing fetal murder when she has her pregnancy terminated without sufficient cause.

LEGITIMATE INDICATIONS FOR TERMINATING PREGNANCY

Physicians should be careful in accusing a brother physician of being an abortionist. It is as much a crime to assassinate character by making insinuations without proof as it is to produce an abortion. There is also the possibility that the lives of women, who are suffering from gravid nausea, advanced tuberculosis, advanced nephritis, and from other conditions which demand the termination of pregnancy, may become endangered, because physicians are afraid of being accused of being abortionists. When the question of terminating pregnancy comes up in a physician's practice, he should demand consultation with not one, but two, or more, physicians of the highest repute in order to protect his reputation and to give the woman and her unborn babe the best opportunity to live.

The medical profession should purge itself of the stigma that has been brought upon it by unworthy doctors. Organized medicine, largely through the local societies, should take up the question and make the efforts to apprehend and punish the abortionists that thrive in every city. Women detectives have been used to advantage in apprehending such criminals. Even if abortionists cannot always be punished, when they feel that they are being watched, it makes the nefarious business so hazardous and so unpopular that some of the worst of them have given up the practice, or have left one city to find another locality where they can ply their trade with greater security.

The French are much concerned over "race suicide"; and it is high time that the people of the United States awaken to the dangers from its decreasing birth rate. The abortionist is partly responsible for the reduced birth rate, and he aids in keeping up the death rate, because many women who trust him die of infection at his hands, or are rendered sterile afterward. The abortionist is one of the greatest enemies to mankind, because he strikes at the very foundation of the natural laws that perpetuate the existence of the human race. As such an enemy he should be exposed and punished.

Fee-Splitting

One of the ugly by-products of the depression has been an increase in the purchase of patients by unscrupulous surgeons from equally culpable general practitioners on the plea that the latter needs the

money. Twenty-five years ago fee-splitting spread like a plague over the United States, particularly in the large cities; but the American College of Surgeons, the American Medical Association, the Southern Medical Association, and the State and County Medical Societies, through pitiless publicity in their medical journals—the Southern Medical Journal had nine editorials on the subject in 1912 and 1913—and by the adoption of ordinances that made fee-splitting unethical, forced doctors to realize that it was an actual crime for them to secretly divide fees with each other in their joint relations to the patient.

Credit should be given to the American College of Surgeons more than to any other medical organization for making fee-splitting unpopular. It required its Fellows to sign a pledge that they would not divide their fees with other physicians. The College of Surgeons also required the staffs of hospitals to sign pledges not to divide fees before the hospital could be classified as "acceptable." Recently the American College of Surgeons has sent out a communication to hospitals requesting them to have the members of their staffs, who have not already done so, to sign pledges not to divide fees.

The Journal of the American Medical Association in an editorial on "Fee-Splitting, An Old Ethical Problem"* speaks plainly when it says: "The essential dishonesty (of fee-splitting) cannot be evaded. The nature of the times is such that men driven by economic necessity seek to find plausible apology for evasion of ideals and principles. It is reasonable to believe that the tottering of a few during this time of stress will not become the example that will lead the rest of the profession to follow the black sheep over the precipice."

Fee-splitting has never been as rampant in Alabama as in some of the more urban states, particularly those of the Middle West; but the practice was sufficiently common and so odious to ethical physicians and surgeons that in 1915 a law, based upon the Wisconsin fee-splitting enactment, was passed by the Alabama legislature making it a criminal offense for physicians to divide fees with each other without the patient's knowledge or consent. Since there are rumors, based upon statements by reliable physicians in various parts of Alabama, that the odious practice of the secret division of fees is increasing in Alabama, the State Medical Association at the Birmingham meeting unanimously adopted a resolution, that was unanimously endorsed by the State Board of Censors, instructing the Secretary to mail a copy of the state law against fee-splitting to each physician residing in Alabama.

There is reason to believe that the crime of secret division of fees prevails more among physicians who are not members of medical societies than among those who feel it a duty to belong to organized medicine. But without regard to who or what a physician is, if evidence can be secured that he is guilty of fee-splitting, it should be submitted to the County Solicitor for report to the grand jury. A few horrible examples of doctors, who prefer dollars to decency, being sent to jail for fee-splitting would end the practice of buying and selling patients in Alabama.

*Editorial, J. A. M. A. p1710, Dec. 5, 1931.

X-Rays and Radium In the Treatment of Disease*

R. W. HALL, M.D.
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The history of true science is the constant revelation of the unknown. Facts thus gained become new material for further advances, and constitute the later cycle in the program of man in his daily achievements. The counterpart of this revelation must of necessity result, therefore, in the abandonment of previously recognized methods and practices. The old is constantly supplanting the new. The history of medicine does not run counter to this conception and in fact throughout its long history has occupied a place in the very first rank in scientific achievement. Just when to abandon the old and become a devotee of the new is a point of sharpest issue, in many instances, and constitutes a practical every day problem for individuals concerned. In order to meet this responsibility adequately much must be considered. With the physician who occupies a pivotal point, often the deciding factor in issues of life and death, this most important responsibility becomes vitally apparent. The conscientious physician lingers long by his older and tried precepts, and reluctantly embraces the new, and well that he should. Wheat should be sifted from the chaff before any important principle of healing should be adopted in professional preferences. However the absence of an open mind to new methods and the employment of medical agents of greater ef-

iciency, which is the privilege and the right of the recipient or patient, the physician in this regard can err just as sadly if his lack of employment of approved methods should be denied his clientele. In the light of this comparison we offer a study of Radio-therapy now about thirty-five years old only, not so gray with years, and not so youthful as to be distrusted. Nothing, let me say, in the outset has come into the picture of modern medicine in its long history with a more brilliant record of achievement than has the modern practice of Radio-therapeutics, in our opinion. It has extended its field of usefulness into practically every hidden corner of medicine.

Our purpose is to limit this study to the more superficial structures, yet many other fields are just as illuminating and can be considered as applicable to this discussion. While the dermatologist has at his disposal at this time many valuable aids such as fulgeration, coagulation, decalcification and surgical diatherapy, yet let us consider what X-rays and Radium have to offer to justify their usefulness. Professor Roentgen discovered X-Rays in 1895 only, and the use of Radium followed immediately thereafter. As happens with most new discoveries a period of commercial exploitation followed, and not until 1910 or 1912 was radio-therapeutics sufficiently developed to be of dependable value. In fact many of the errors in the use of these agents before their proper standardization has resulted in many critics which time only can remove. The discovery of the Coolidge tube in 1913 marked the real beginning in satisfactory X-Ray therapy. Dr. G. M. McKee of New York City, now living, brought out his first edition of his book on X-Rays and Radium Therapeutics some ten years ago and without hesitation stated that not less than sixty dermatoses could be best treated or cured by the

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use of these agents, and as you know, text book writers are not very careful of their statements, for a book stands or falls by a few discredited claims. His book, with his systematized outline, has stood the most rigid tests for accuracy, safety and efficiency for these years without repudiation. Later in 1927 Dr. McKee issued his second edition retracting none of his text of previous date but supplements them by adding extensively to his previous therapy and broadened his technic to such extent that modern radio-therapeutics is now regarded one of the most useful agents for curative purposes and when properly administered is just as safe as modern surgery and is safe guarded by the same established standard, in fact their general principles are in many respects identical. As further evidence of the proper place for radio-therapeutics, let us consider the last book published on dermatology by Dr. Andrews of New York City. His statement is, though not interested in radio-therapeutics more than the average dermatologist, that roentgen rays are now recognized as the most useful and successful single remedy available for the treatment of skin disease. In eighty-one dermatoses roentgen irradiation is applied with various degrees of benefit and the treatment of choice in most of them. Dr. Crutchfield states that in his experience about 60 per cent of all skin diseases are cured or improved by the roentgen rays and this statement meets the approval and is in line with the majority of the modern dermatologists.

Dr. Andrews also presents a classification of skin diseases in which X-Rays are indicated as follows:

1. A list of eight diseases curable only by radiation—the names are not listed here.
2. A list of seven dermatoses in which it is the most useful, if not the only beneficial treatment;
3. Six skin diseases in which irradiation has cured many for which no other treatment is offered.
4. A list of fourteen skin diseases in which this is decidedly the treatment of choice.
5. A list of eight in which combined with surgery results in the highest known number of cures.

A total of twelve of these compiled lists are shown, all of which have been subjected to the most rigid verification by many capable critics. But if these agents disregarded as to their usefulness in these general classifications it would seem that their worth is little short of a revelation in the treatment of superficial cancer. Let us present this by a simple comparison—many authorities have printed over their signatures the statement that skin malignancies in their hands, as a result of treatment is as follows:

1. Cures in the average run of superficial cancer cases—90 per cent.
2. Cures in selected cases—95 per cent.

Such averages are in line with other workers in this field.

Now let us ask what diseases in general practice can boast of such a record? Is it true of syphilis for which we have a supposed specific? Or malaria? Or diphtheria? No, far from it, as all of us know, and yet we find most of the laity and even a few physicians who still think, that skin cancer is incurable. This should, I think, be convincing that there is an established field for radio-therapeutics. Much more could be added to these statements if

deemed necessary.

Let us now consider some of the pre-requisites for successful radio-therapeutics:

1. Thorough medical training, particularly in biology, chemistry, physiology, histology, and pathology, and lastly radiology. No competent service in this line of practice is possible with merely a salesman's course in so complicated a field of scientific work. The bad repute of these most valuable agents in the treatment of diseases is due to these most valuable agents in the treatment of diseases is due to incompetent operators. Before the invention of the Coolege tube and the interruptorless transformer many unavoidable errors were made for the reason that no system of dosage to that date had been perfected, but since 1915 it is exceedingly rare that permanent injury results from radio-therapy in competent hands. When wholesale error is discovered incompetency must be the answer and competent operators suffer the loss of the confidence of the public, and patients who need its benefits are driven from it thru fear of injury. The time will come when a test of competency will be required before such privilege will be extended to a physician.

Modern radio-therapy is a well ordered system, not a simple act of application. We hear the remark even by physicians "to stick some radium to it," X-rays and Radium are agents of the radiologist as the scalpel is to the surgeon. They have no fixed order of appliance. The ability to accomplish certain desired results is sought and just what to use and when to use the knife, scissors, etc., to effect a desired end by the surgeon, so the radiologist maps out his course and executes it accordingly. The success of the therapist depends upon his originality in meeting pathological situations, using the proper agent in the proper manner to reach the end sought. To say that a physician has radium or an X-Ray machine is saying very little to his credit. The question is how skilled is he in the use of them in accomplishing well established results. Also definite knowledge of the pathology of diseases irradiated must be known and evaluated. Malignancies should by no means be treated until the type, location and a reasonable pathological knowledge be obtained before such treatments are considered, for example: every one knows the metastatic tendencies of malignancies of the lip, hands, penis, etc., and since the method of dosage differs so widely in comparison to malignancies elsewhere, a full setting of the case is imperative. Black moles demand the utmost care in their adequate treatment and constant subsequent observation.

Let us consider briefly a few fundamental principles of radio-therapy. We do not have time to go into biological effects of irradiation, but the thought I have in mind is the importance of using these agents on the basis of cause or effect. There are three divisions that serve very well as a general outline:

1. To stimulate cellular processes. There are

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many instances in which the operator wishes simply to mildly stimulate the tissues, for example, acne is a condition of sluggish relaxed condition of the sebaceous glandular areas largely of the face, chest, back, etc. Nothing approaches the effect of X-Rays in efficiency, and perfectly harmless. The rays are repeated until the proper texture of the skin is reached. However, the physicians must follow the result of each treatment with close inspection and stop long before he reaches the danger zone. This first principle is equally applicable to many similar dermatoses. Also radiant energy is used to arrest hyper-active conditions as irritations, urticarias, pruritis ani, and vulvi, etc., in which arresting hyper-activity is the needed result, in which nothing approaches radio-therapy. Danger is brought about by the urgent request of the patient for relief of symptoms, in the aggregate too many treatments may be applied since skin tolerance early and late must without exception be accurately calculated and observed. A large list of diseases fall within this category. Many are presented in which the demand is for cell destruction in toto; benign and malignant tumors, moles, warts, etc. The skill of the operator here is also of importance, since some are deep, others superficial and the dosage, manner of application, screened or unscreened demands a careful analysis of the pathology before a plan of dosage is formulated. These are mentioned in order that we may see the necessity of thorough knowledge of the pathology in each and every disease, and then be just as familiar with the scientific approach, therapeutically, as the situation demands. It is clear in the light of these facts that much versa-

tility is required to properly practice radio-therapy which is an art as well as a science, and each condition is met from a purely individual standpoint and not as a fixed stereotyped outlines of procedure.

The anatomic setting of the tissues to be irradiated often modifies the form of approach very materially. Malignancies located about the ears, as any one with experience can testify, presents additional hazards, there being little protection of the vascular and nerve supply between the skin and the cartilage. Over irradiation destroys the vital functions of these parts to the extent that a rebuilding process is delayed, if at all. The most refined calculations in such cases are at times disappointing and these are among those that lower the average in successful therapeutic results. The same is true of cases involving the bones, mouth, etc.

Idiosyncrasies are not regarded by authors and operators as of much consequence. Such apparent findings can as a rule be explained as an error in technic or dose calculation, or improper application of the type of tissues since the location of the face, flexures, scalp, etc., are more sensitive to irradiation. There are three or more grades of tissue reactions in response to radiant energy, these reactions in some instances are desired and sought, others are often most deplorable. A burn is indeed unfortunate and reacts most harmfully to the cause of the profession at large. No physician should knowingly commit such an error, neither should a physician undertake such treatments if ignorant of the possible consequence. Commercial houses are persuading some physicians that a few days training is the only necessary re-

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quirement for radio-therapeutics. Some beauty shops, irregular practitioners, are attempting to treat diseases in this manner. I should like to register a plea for the scientific and intelligent use of Radio-therapeutics and ask the profession to defend it. Also be just as fair with the unsuspecting public in advising them on any and all occasions of the extreme hazardousness of the ignorant application of these highly destructive modalities.

In conclusion, will say that this is a very much abridged treatment even of the points considered, due to time limitation. Nothing in the nature of dosage, technic, etc., has been mentioned since they would not be of interest to one not particularly interested in this line of treatment.

The points presented briefly are:

1. Radio therapy as now practiced is a well established, stabilized, and dependable form of treatment, and a most valuable aid to modern therapeutics.

2. If radiotherapy has superior advantages in dealing with certain types of disease, then those needing it should not be denied its privileges, due to ill advised prejudice.

3. The profession should be conservative and discriminating in the choice of new remedies, but not obstinate in accepting proven advantages in medicine.

4. Irridiation is now an accepted form of treatment for at least 60 percent of all dermatological cases. However, this does not in any sense endorse over-enthusiasm or faddishness in this form of therapy.

5. In skin malignancies, when treatment is properly administered between 90 and 95 percent of such cases should be permanently cured.

6. Radiological practice pre-supposes a knowledge of histological and pathological conditions, together with scientific training in the proper application of these agents.

7. Radiotherapy is not a stereotyped procedure. Each case has its own peculiar setting and the individual ingenuity of the operator is a most important factor in determining results.

8. X-rays, roughly speaking may be applied in three fairly well defined pathological conditions; to stimulate, arrest, or to destroy tissues, in respect to certain morbid changes, the dosage and other factors being the means by which each condition can be irradiated for the best results.

9. Idiosyncrasy to X-rays, which seems to be the dread of some, is not if such consequence as to alter materially the entire field of practice. When such is suspected initial tests can be instituted. Untoward reactions in radiotherapy will likely run no higher average than is found in the role of accidents in surgery.

10. Radiodermatitis if either immediate or remote type is the bane of X-ray therapy. The earlier operators could do no better due to no standard in treatment. At the present time such deplorable results are extremely rare in skilled hands, and the profession can well afford to defend scientific radio-therapy.

A Consideration of Some Points of Contact Between Urology, Gynecology and Obstetrics

OSWALD S. McCOWN, M.D., F.H.C.S.
Memphis, Tenn.

The practice of any special branch of medicine entails the duty of cooperation of those working in it with those in other specialties. There are two specialties in which the fields come in closer contact nor in which there is greater opportunity for mutual help than in Gynecology and Obstetrics and Urology. It is a pleasure to give full credit to Dr. Howard Kelly and Dr. Guy Hunner, two of the countries best known gynecologists for their pioneer work in urology and to the many other gynecologists who have contributed to urological advancement. Gynecologic pathology often produces urological symptoms, and urological disease causes gynecological symptoms with equal frequency. Hence the gynecologist and urologist must work together if the best results are to be obtained for some of our patients.

I shall undertake to do no more than touch briefly upon some of the points of contact between these specialties where I have found by experience that overlapping often occurs and occasionally confusion and error creep in.

I will mention first some of the conditions in which the urologist may aid the gynecologist and obstetrician then some of the pits of error into which the urologist may fall and in which the gynecologist may throw him a life line.

Gonorrhoea, like the poor, we have always with us. While in the female it concentrates on the cervix and tubes and ovaries it less regularly attacks the urethral stricture. It sometimes causes periurethral abscesses which require incision, preferably from inside. Infection of skens glands is in some cases an important factor. In my experience the gonococci linger more persistently in these glands than in any other place in the female. It can usually be eliminated by injecting the glands with Colloidal Silver, 10% mercurochrome, or Tincture of Metophen. If these fail destruction of the gland with high frequency current will usually succeed.

Urethral caruncle with its discomforts is, of course familiar to you all. Most of those that come my way I destroy in the office with the high frequency current under local anesthesia.

Stricture of the urethra is not so generally recognized, but its recognition is becoming more general. It is an occasional cause of bladder infection and of pyelonephritis. It is diagnosed as in the male and responds to the same treatment, gradual dilatation. The response is somewhat more prompt, and the results more permanent than in the male. The

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temptation is great to dilate too rapidly and I admit my own weakness in sometimes yielding, but the dilatation should be gradual. I have not yet seen a case requiring incision as suggested by Dr. Boyd, or the use of Dr. Livermore's urethral electrode to destroy a section of the stricture. It is refreshing to note that one of our outstanding gynecologists, Dr. F. W. Smythe has contributed a valuable paper on this important subject.

Foreign bodies in the female bladder make an interesting chapter. Instances are recorded of catheters breaking off in the bladder or of being allowed to escape whole into the bladder while in use by the doctor or nurse. Foreign bodies are sometimes introduced by the patient and vary greatly in nature. My own experience is limited to two cases of this kind, the first referred by Dr. Sidney Meeker, the second by Dr. H. B. Everett. In number one a hairpin was removed in my office under local anesthesia. The bladder was inspected with the examining scope. This was removed and the patient placed in the knee-chest position and a Kelly endoscope introduced. The closed end of the pin was caught with an improvised hook and pulled down against the end of the scope and held there while the scope and hairpin were both withdrawn. When asked how the pin got into the bladder the patient said she swallowed it and I did not press the question.

My other case was of a sponge tent which the patient had attempted to introduce into the cervix, but had inserted through the urethra into the bladder. It was removed under ether by dilating the urethra and pulling the sponge out piecemeal with

an ordinary long artery forceps guided by fingers in the vagina and irrigating the bladder with saline solution afterwards. The patient had no further trouble.

When bladder diverticulum is mentioned we immediately think of a man with prostatic or other visical neck obstruction. Diverticulum does, however, occur in women as shown on the film exhibited here. Dr. A. A. Kutzmann (S. G. & O. May, 1932), analyzes one hundred cases, three of which were found in women. The patient whose cystogram I have shown was a woman of 70 years, admitted to St. Josephs' hospital on June 30, 1927. She complained of discomfort in the bladder region with urinary frequency and burning of several years duration. The symptoms had gradually increased in severity and right sided pain, interpreted as renal colic had been added. There was no history of hematuria. The examination, pelvic and otherwise, was negative except for the urinary condition. The urethra was contracted and inelastic, the bladder contained four ounces of cloudy urine. The bladder capacity was five ounces. The whole interior of the bladder was dark red and rough with numerous diverticulae in the fundus visible. There were no bleeding points and no bleeding during cystoscopy. The right ureteral orifice was normally located, the left near the midline. Neither would take a catheter nor filliform of any size. There were no shadows suggesting stone. The cystogram showed the many diverticulae seen in the film. The laboratory reported on the catheterized bladder urine was negative except for albumin 2 plus and innumerable pus cells. It was not cultured but smears were made for tubercle and were negative.

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Our diagnosis was chronic cystitis with diverticulae and stricture of the urethra. Intravenous urography had not then been developed but would now be of great help in determining the condition of the upper urinary tract.

With urethral dilatation and bladder irrigations she was comfortable, but when they were left off she suffered as before except she had no more colic. She is still living at 76 and going about, but I understand suffers with her bladder. It is highly probable that an earlier urological examination would have resulted in a more satisfactory outcome.

It was in such cases as this that the old button hole operation producing a vesico-vaginal fistula was done. It is perhaps not too much of a digression to state that Dr. Caulk has recently designed a quartz lamp for introduction into the female bladder with the direct application of ultra violet ray to the bladder mucosa in intracable cystitis of tuberculous or other origin. I have as yet not used it, but it sounds good. Dr. Samuel Lubash (J. of U. August, 1933) has gone a step further and designed a similar lamp mounted on a No. 9 flexible ureter catheter for the ultra-violet irradiation of the kidney pelvis and ureter in tuberculosis of these organs. Its practicability has yet to be proven.

Bladder deformities of varying degree are frequently seen cystoscopically after hysterectomy due to the practice of using the bladder to cover the cervical stump. This occasionally causes annoying and persistent symptoms and I think this method of covering the stump is bad technique.

Anatomically the urether is attached to the posterior parietal peritoneum for the greater part of its length and when this peritoneum is lifted up the ureter is lifted up with it. This renders the ureter particularly liable to injury in pelvic operations for retroperitoneal pathology. The ureter is likely to lie in front of a retroperitoneal fibroid or ectopic pregnancy. In case one ureter should be ligated under such circumstances and the opposite kidney be sound with the kidney on the ligated side free from infection, atrophy of the kidney on the ligated side will occur and the accident not prevent recovery. I tied one once in removing a retroperitoneal ectopic fetus dating back eighteen months. The patient made an uneventful recovery. If, unhappily, both ureters should be occluded by a ligature complete amuria will, of course result and the patient's life can be saved only by releasing the ligatures on at least one ureter or by rephrostomy. I have seen one case in which incontinence resulted from the emptying of a ureter into the cervix stump following hysterectomy.

Gynecologists should be reminded that a mass in the pelvis may be a pelvic kidney or that an ectopic kidney may be encountered during the course of operation for the removal of other pelvic pathology and that the attempted removal of such a kidney without recognizing it for what it is is likely to end in disaster. Such a kidney should not be removed without previous urologic study.

The lower ureter often shares in the damage from pelvic infection or pressure from pelvic tumors, and acute or chronic pyeloureteritis may be an important factor in the illness. The acute cases with pain and fever which do not respond promptly to rest in bed with alkalis and forced fluids are usual-

ly relieved by the indwelling ureteral catheter and irrigations. These catheters can be inserted without damage to the pelvic inflammation.

Chronic pyeloureteritis is occasionally responsible for the continued slight fever and delayed return to normal of the leucocyte count and sedimentation time in pelvic infection. This return to normal may be hastened by use of the ureteral catheters and lavage where pyelitis is a factor. Likewise pyelitis may play a similar role in post operative fever and pain and consequent delay in convalescence. The same treatment is in order here.

Some cases of dysmenorrhoea especially where backache is a dominant symptom are due to stricture of the lower ureter in which the obstruction is increased by the pelvic congestion which normally occurs at the menstrual time. Relief can only be gained by dilatation of the stricture.

This list of conditions in which the urologist may aid the gynecologist might be lengthened but I will close this part of the discussion by saying that if the gynecologist will remember his co-worker, the urologist, he may often be helped out of a dilemma and his patient greatly benefitted.

Pyelitis of pregnancy has been perhaps more discussed than other features of female urology but its mention is, I think, still in order.

It has been shown that dilatation of the kidney pelvis and ureters regularly takes place during pregnancy and that in the absence of organic pathology this dilatation disappears after delivery. This is important for two reasons. First it predisposes to infection and second, failure to take this temporary dilatation into consideration might lead to error in the interpretation of urograms made during pregnancy or soon after delivery.

The management of upper urinary tract infection during or following pregnancy does not differ materially from that found in nonpregnant women. Drainage is the essential feature and this can be best obtained by the ureteral catheters. Sometimes irri-

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gations without leaving the catheters in is sufficient, but often indwelling catheters are necessary.

It seems to me that the cases of pyelitis following within a few days after delivery are more frequent than during pregnancy. They also give greater anxiety to the doctor and patient because of the fear that the fever accompanying them may be due to puerperal infection.

Since the pregnant state is known to predispose to upper urinary tract infection, microscopic pus or blood in the catheterized urine especially if accompanied by frequency or dysuria or fever, should put the obstetrician on his guard.

I am sure the urologists are not unmindful of the fact that urinary symptoms are **very very** often caused by gynecological pathology, but it can do no harm to emphasize this relation of cause and effect and to stress the point that treatment directed to the symptoms alone will not give relief. Some of the more common of these conditions will be touched upon briefly.

Uterine displacements may cause frequency or urgency with or without pain. Sharp anteversion with the fundus of the uterus pressing low down against the back of the bladder will sometimes cause these symptoms. A uterine fibroid low down in the anterior wall or in the cervix may likewise be to blame. Fibroids or other pelvic tumors may press on a ureter and cause kidney colic or hydronephrosis. In Nov., 1930, I saw a patient with Dr. Robin Mason who had a fibroma the size of a lemon in the vesico-vaginal septum. The bladder looked normal except that the

trigone was rounded and lifted up. The tumor was removed through the vagina by Dr. Mason, and the patient has been well since. Retroversion may cause the cervix to stick up under the bladder and cause urinary discomfort.

Prolapse with cystocele may be at fault. Some of the cystoceles have considerable residual with overflow incontinence. Most of them ultimately become infected and cause pyuria, frequency and pain, but I have never seen a stone form in one. Pylonephritis is common with them. Treatment can do no more than give temporary relief without correcting the cystocele and prolapse.

Chronic cervicitis whether due to gonorrhoea or to birth injury and secondary infection, is, I believe a source of infection for the urinary tract.

The focus must be removed before the effects can be cured. I have found high-frequency coagulation the most servicable single method of treatment.

Recurring salpingitis causes all kinds of urinary symptoms, and occasionally the adhesions left after such an attack will, without the acute recurrences cause the symptoms. It is plainly necessary to treat the cause rather than the resulting symptoms.

Urinary pain and frequency are sometimes most prominent among the symptoms of ectopic pregnancy.

Cancer of the cervix frequently invades the base of the bladder. I have seen numerous patients in whom ureteral obstruction with infection above was due to cancer of the body of the womb which had spread until a frozen pelvis had resulted. One of these suffered right renal colic and was sent to me for

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nephrectomy. I declined to do the operation after finding the true condition. The patient went home, but had her nephrectomy done by another surgeon soon afterwards. The operation was successful, but the patient died.

In conclusion I wish to express a warning to the urologists. Thus far the new specialty of urology which has gone further and done more for suffering humanity than any other specialty has ever done in a similar length of time, has been busily engaged in picking up the urologic failures left over by all the older branches of medicine. These failures have been mostly due to incorrect or incomplete diagnosis and the consequent misdirected treatment. As urology grows older and an increasing percent of patients apply directly to urologists for treatment, the specialty will find itself with its own crop of failures for the other branches to pick up if it does not watch its step and consult freely with other specialists. All specialists must be good doctors which means more than being good specialists.

Every female urological patient should get a thorough pelvic examination as a routine, and if the urologists fail to carry out this precaution, gynecology will fall heir to more than its share of their failures.

Alcorn County Doctors Met Aug. 16

The regular monthly meet of the Alcorn County Medical Society was held at Dr. C. W. Norwood's Lodge, Waukomis Lake, at 7 P. M., August 16. Twelve of the sixteen doctors in the county were present, making the best attendance record of the year.

On arrival at the Lodge the entertainment committee, composed of Drs. D. W. Hamrick, C. W. Norwood, and S. L. Stephenson, had a delightful buffet supper ready which was thoroughly enjoyed. After completion of the supper the members assembled in the lounge room where the vice president, Dr. C. F. Gilbert, called the meeting to order. Dr. M. H. McRae presented an interesting case report of Coronary Thrombosis, and Dr. C. W. Norwood reported a case of Amebiasis. Necessary business matters were disposed of and the meeting was adjourned at 10 P. M. The next meeting will be held at the Waldron Hotel, September 20.

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Surgical Treatment of Scoliosis

JOSEPH I. MITCHELL, M.D.
Memphis, Tenn.

From the Willis C. Campbell Clinic, Memphis, Tenn.

Rotary lateral curvature of the spine is essentially a deformity of the spinal column in which several are constantly deviated from their anatomical position in the median line. Since the upright posture requires constant adjustment of equilibrium, any deviation of the vertebral column disturbs the balance of the entire body and causes compensatory lateral displacement of the pelvis and shoulders. Scoliosis is, therefore, to be regarded in this wider sense as a deformity of the whole body, especially manifest in the spine. No single etiologic agent produces scoliosis for it is recognized that lateral curvature is not a specific disease entity but that the deformity may result from any force which causes asymmetry of development of posture. The etiology in the majority of cases is obscure. In a study of 332 cases of etiological factors in order of frequency were anterior poliomyelitis, congenital anomalies of the skeleton, empyema, spastic paralysis, burn contracture of the soft structures, and torticollis.

The deformity originates in early life, most frequently during the first decade, but is, as a rule, unnoticed by the parent until adolescence. The condition may become arrested in an early stage, or in other cases shortly after puberty, the curvature may become exaggerated and progress rapidly producing not only extreme deformity but also serious impairment of the general health. With maturity the skeleton assumes stability and relative permanence of contour so that the probability of future increase of deformity is remote. The importance of early and efficient treatment arises, therefore, from the extreme uncertainty of the prognosis during the adolescent period.

The treatment of scoliosis may consist of (1) gymnastic exercises, (2) forcible correction, (3) surgical treatment. In many instances the curvature can be lessened or at least further deformity may be prevented by conservative measures. In a relatively small percentage of cases, fusion of the affected region of the spine offers the most practical and efficient method of arresting the progress of the deformity. Surgical fusion is not required in every case nor is it advisable, but it is believed that in the paralytic cases and in selected cases from other causes which are progressive, fusion of the spine is the treatment of choice.

TECHNIC:—The deformity is first corrected by means of a plaster of paris cast in the following manner: A cast is applied extending from the chin and occiput to the pelvis, or in some instances to the knees. Metal hinges and a turn-buckle on the concave side are incorporated into the cast which is cut horizontally at the level of the apex of the curve in the spine. Daily adjustment of the turn-buckle produces gravity in the upright position favors the progress of the deformity, recumbency is an important factor in the treatment and when practical continuous recumbency should be enforced, when this is not possible, long rest periods daily are advisable. The

corrective period varies from four to six weeks and successive roentgenograms through the cast determines the amount of improvement.

The two classical methods of spinal fusion, (i.e.) the Albee graft and the Hibbs' fusion both present technical difficulties in a scoliotic spine. The laminae and articular facets may be difficult to expose sufficiently on the concave side to perform adequately a fusion by Hibbs' technic. An osteoperiosteal bone graft from the tibia has been found to be most satisfactory.

The patient is placed on the operating table lying prone with sand bags of pillows under both shoulders and beneath the pelvis; the position should be comfortable but it is essential that the spinal column be maintained in as straight alignment as is possible. This preliminary adjustment of the patient is a position to allow freedom of respiration which is already limited by deformity is of value in preventing post-operative shock. The region to be fused which has been determined previously is identified by immediate reference to the roentgenograms in the operating room. The primary curve should be selected because if a compensatory curve

be fused the deformity may increase in the region of the primary curve without the ability to further compensate in the fused area. Thus the operation may in effect cause an increase in the deformity. The length of the operative area should extend from a vertebra which occupies a normal position to the vertebra at the opposite end of the curve which likewise is normal in position, including not only the apex of the curvature but all the intervening segments. Six or eight spinous processes may be fused in one stage. If the fusion must include more than eight vertebrae, the operation should be performed in two stages. After the customary skin preparation and draping with sterile linen a straight incision is made on the concave side of the spine. The straight incision lies approximately in the mid line of the back, does not over-ride directly the operative field and gives a better cosmetic effect than a curved incision which may apparently accentuate the deformity. After the skin incision is made and the operative field protected by towels clamped to the wound margins, the skin and subcutaneous tissues are retracted and the spinous processes exposed. The supra-spinous and infra-spinous ligaments are split longitudinally, the periosteum over both the superior and inferior borders of the spinous processes is split and the periosteum stripped back to the base of the transverse processes. The laminae are prepared by raising two small bone flaps from each lamina with a small bone gouge, turning one upward and one downward. The spinous processes are split longitudinally and divided completely, near their bases; the bone chips thus formed are turned down to make the contact with the vertebrae immediately below.

An osteoperiosteal or Delangeniere graft is removed from the flattened inner surface of the tibia, and placed in contact with the denuded laminae and fractured spinous processes. The edges of the periosteal sheath are approximated and the muscles, fascia and skin closed. The spine is immobilized in a previously prepared and bivalved cast or on a Bradford frame. At the end of two weeks when the wound is healed and the stitches removed another cast is applied in order to continue the corrective force during the period of consolidation of the graft. After twelve weeks the cast is removed, a spinal brace or leather corset is fitted and the patient allowed out of bed. Support to the back is continued for twelve to eighteen months, or until the roentgenograms and clinical examination demonstrate that fusion of the spine is solid and that the deformity is arrested.

RESULTS:— Operative fusion has been successful in both cosmetic and functional results. Of the 41 cases operated upon, 14 were males and 27 were females. The average age at which the deformity was first noticed was 11 years; the average age at time of operation was 15 years. The youngest patient was a girl 7 years and the oldest a woman 25 years of age. In 14 cases the cause of the scoliosis could not be determined, 24 followed anterior poliomyelitis, 2 were caused by congenital anomalies, and 1 by empyema.

There have been no deaths in the operated group and no serious post operative complications. Twenty-three of the patients have discarded all apparatus and are apparently normal individuals. Nine patients are not wearing spinal braces, but 4 of these will probably be able to discard external support within

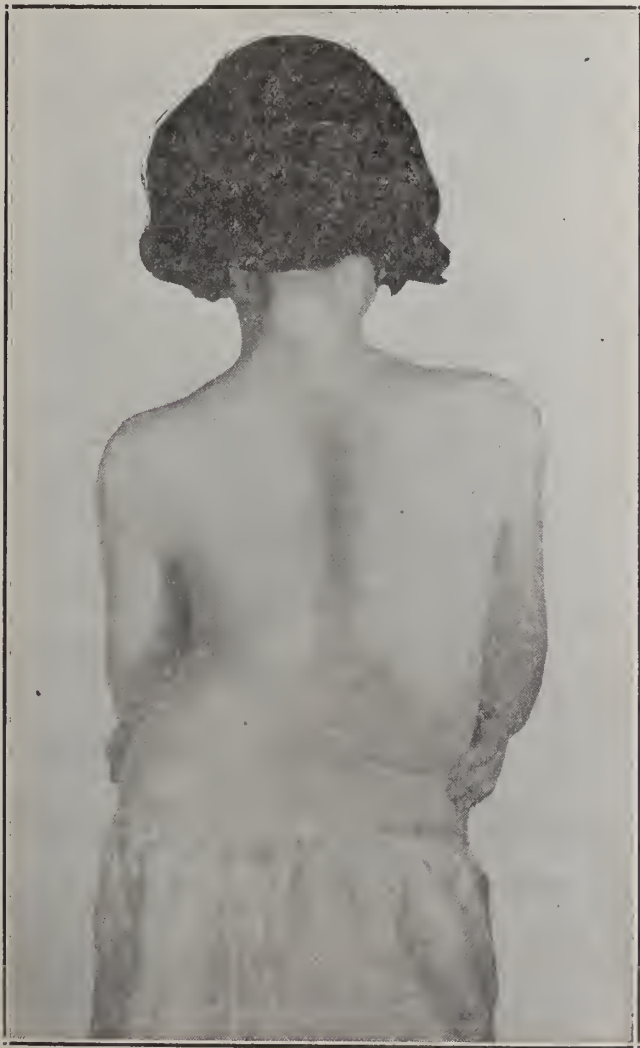


Fig. 1 Right dorsal left lumbar scoliosis of idiopathic origin girl 12 years of age.

a few months. Five of the paralyzed patients are so severely crippled that they will require permanent support by braces and crutches. The spinal fusion



Fig. 2. Six months after spinal fusion showing improvement in posture.

has been of value, however, in these cases by arrest in a progressive deformity, by lessening pain, and by mechanic support to the trunk which has made sitting and walking easier. The operation in 4 cases has been too recent to determine the final result.

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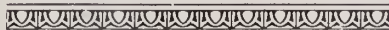
Dr. J. M. Hood, president of the North East Mississippi 13 County Medical Society.



Dr. J. M. Acker Jr., the efficient secretary of North East Mississippi 13 County Medical Society. He is now Superintendent of the State Hospital for the Insane at Jackson, Miss., which will soon have one of the most modern plants in the United States. He has plenty of executive ability. He is doing his job well. His first love is for his home society. He will meet you at Houlika.

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Dr. W. W. Babcock, Philadelphia, Penn. (2).
Dr. Frank H. Lahey, Boston, Mass. (2).
Dr. E. S. Judd, Rochester, Minn.
Dr. E. W. A. Ochsner, New Orleans, La.
Dr. Pol N. Coryllos, New York City.

MEDICINE—

Dr. John A. Kolmer, Philadelphia, Penn. (2).
Dr. Ralph Pemberton, Philadelphia, Penn.
Dr. Don C. Sutton, Chicago, Ill. (2).
Dr. Louis H. Newburg, University of Michigan,
Ann Arbor, Michigan.
Dr. Logan Clendenning, Kansas City, Kansas.
Dr. Warfield T. Longcope, Johns-Hopkins, Baltimore.
Dr. O. H. P. Pepper, Philadelphia, Penn.

E. N. T.—

Dr. J. M. Robb, Detroit, Michigan.

PEDIATRICS—

Dr. P. C. Jeans, University of Iowa, Iowa City, Iowa.
Dr. W. C. Davidson, Duke University, Durham, N. C.

OBST.—

Dr. Ed. W. Shumann, University of Penn.

SYPH.—

Dr. Harold N. Cole, Cleveland, Ohio.

PATH.—

Dr. M. P. Neal, University of Missouri, Columbia, Mo.

UROLOGY—

Dr. R. S. Ferguson, New York City.

TO BE HEARD FROM

Dr. D. P. Barr, Washington University, St. Louis, Mo.

Dr. Emiel Novak, Baltimore, Md.



Dr. P. W. Rowland, Professor and head of the Department of Pharmacology and Materia Medica in the University of Mississippi Medical School. He is a charter member of the Mid-South Post Graduate Medical Assembly—the Tri-States, and is the able, cultured, and dignified president of this association which is now one of the very best in America.

Average weight changes in the pregnant woman are 0, 1, 1, 4, 4, 5, 5, 3, 3; according to H. H. Cummings, gynecologist, Ann Arbor, Michigan.

The uvula is a small human appendage that has no function as far as we know, but it is often a source of infection.

The average case of acute appendicitis should be diagnosed on two symptoms, pain and tenderness. The appendix should be removed within six hours of the onset.

The symptoms produced by the tonsils constitute the basis of their removal.

Birth control may be all right, but it is not the responsibility of the medical profession.

The practitioner should make a positive diagnosis of malaria before he begins treatment if possible. It is easy enough to say a man has malaria and let it go at that.

When quinine fails, might try sulphassphenamine along with it for four or five more weeks.

The scientific program at Houlka for the North East Mississippi 13 County Medical Society is unusually good. The date is September 14th.

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The University of Mississippi School of Medicine is undergoing a complete reorganization, including premedical education, tuition, faculty personnel, housing conditions, and curriculum. In addition to all this, several new features are being added to the Medical School. Among these additions may be mentioned the X-Ray Laboratory, Clinical Microscopy Laboratory, the Department of Clinics, and the Out-Patient Department.



Dr. Alfred Hume, Chancellor of the University of Mississippi. He is a scholar, thorough and profound, a Christian gentleman of the first order, a citizen true to every responsibility. A chancellor thorough in the application of college technique and very appreciative of human values. A chancellor able to grace any university in the country.

PREMEDICAL EDUCATION: It has been necessary to change the requirements for admission to the Medical School from two years to three years of collegiate work. It is necessary for an applicant to present credits for having completed three years of academic work approved by the University of Mississippi as work leading to the Bachelor of Arts degree in order to enter the Medical School. This work must average a grade of C, or over, in order to be acceptable for admission to the Medical School.

TUITION: The Board of Trustees has seen fit to change the tuition in the Medical School from \$70.00 a year to \$150.00 a year. This tuition of \$150.00 a year falls far short of balancing the budget for expenses for medical education in Mississippi.

FACULTY PERSONNEL: In selecting members of the faculty for the Medical School the following points have been very closely considered:

1. Academic Qualifications.
2. Teaching Experience.
3. Demonstrated Teaching Ability.
4. Productive Research Work.
5. Personality.

FACULTY FOR 1934-35
University of Mississippi School of Medicine



PHILIP LEE MULL, B.S., M.D.
Dean of the School of Medicine, and Professor of Medicine

1. Academic Qualifications
B.S., Valparaiso (Indiana) University, 1895
M.D., Kentucky School of Med., Louisville, 1898
2. Teaching Experience—13 Years in Anatomy in Two Medical Schools
1921-23, Prof. of Anatomy, U. of Louisville Med.

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School

1923-34, Prof. of Anatomy, U. of Miss. Med. School

1930-34, Dean of the University of Miss. Med. School

PETER WHITMAN ROWLAND, M.D., F.A.C. P.
Professor and Head of the Department of Pharmacology and Materia Medica

1. Academic Qualifications
M.D. Memphis, Tenn., Hospital College of Med. 1882
2. Teaching Experience—31 years in Pharmacology and Materia Medica in the U. of Miss. Med. School, and Founder of the Department.
1903-34, Professor and Head of the Dept. of Pharmacology and Materia Medica in the U. of Miss. Med. School.

JAMES BURDINE LOOPER, B.S., M.S., Ph.D.
Professor of Histology and Embryology

1. Academic Qualifications
B. S., Furman University, S. C., 1922
M.S., U. of Virginia, 1925
PhD., U. of Virginia, 1927
2. Teaching Experience—8 years in Histology and Embryology in the U. of Miss. Med. School.
1926-29, Associate Prof. Hist. and Embryology, U. of Miss.
1929-34, Prof. of Histology and Embryology, U. of Miss.

GUY HAINES WOOLLETT, B.S., M.S., Ph.D.
Professor of Organic and Physiological Chemistry

1. Academic Qualifications
B.S., U. of Minn., 1910
M.S., U. of Minn., 1916
Ph.D., U. of Minn., 1918
2. Teaching Experience—18 years in Chemistry in two State Universities.
1916-18, Asst. Prof. of Chem., (Med.) U of Miss.
1918-20, Instructor in Chem. U. of Minn.
1920-26, Associate Prof. Physiological Chem., U. of Miss.
1926-30, Prof. Physiological Chem., U. of Miss.
1930-32, Head of the Dept. of Chem., U. of Miss.
1932-34, Prof. Organic and Physiological Chem., U. of Miss.

HAROLD JOSEPH GONDOLF, M.D.
Professor and Head of the Department of Bacteriology, Pathology, and Clinical Laboratory Diagnosis

1. Academic Qualifications
M.D., Tulane University Medical School, 1913.
2. Teaching and Laboratory Experience—12 years.
1915-17, Instructor in Clin. Path., Tulane U. Med. School
1918-19, First Lieut. M.R.C., U. S. Army—Assistant Pathologist, Base Hospital 102, A. E. F., Italy.
1923-26, Assistant Pathologist, Charity Hospital, New Orleans, La.
1927-28, Pathologist, Charity Hos. New Orleans
1928-30, Instructor in Histology, Organology and Embryology, Tulane U. Medical School
1930-32, Professor of Bact., Path., and Clinical Diagnosis, U. of Miss. Med. School

1933-34, Diagnosis, U. of Miss. Med. School
JAMES REGAN SIMMS, JR., B.S., M.S., Ph.C., M.D.
Assistant Professor of Bacteriology, Pathology, and Clinical Laboratory Diagnosis, Director of Clinics, Director of the Out-Patient Department, and Superintendent of the New Hospital Building and Equipment

1. Academic Qualifications
B.S., Emory University, Atlanta, Ga., 1923
M.S., Emory University, Atlanta, Ga., 1924
Ph.C., U. of Miss. School of Pharmacy, 1928
M.D., Emory U. School of Med., Atlanta, 1932
2. Teaching Experience—8 years in the Medical Sciences.
1924-26, Assistant Professor in Physiological Chemistry, University of Mississippi
1926-30, Assistant Professor of Bacteriology and Physiology, University of Mississippi School of Pharmacy
1930- , Taught the Course in Clinical Diagnosis in the University of Mississippi School of Medicine
1932-33, Professor of Bacteriology and Pathology in the University of Mississippi School of Medicine
1933-34, Assistant Professor of Bacteriology, Pathology, and Clinical Laboratory Diagnosis; Director of Clinics, Director of the Out-Patient Department and Superintendent of the New Hospital Building and Equipment

WILBUR F. POTTER, A.B., A.M., Ph.D.
Professor and Head of the Department of Physiology

1. Academic Qualifications
A.B., University of Kansas, 1925

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A.M., University of Kansas, 1927

Ph.D., University of Kansas, 1930

2. Teaching Experience—9 years in Physiology and Pharmacology in two State Universities.
1925-26, Assistant Instructor in Physiology, U. of Kansas
1926-30, Instructor in Physiology, University of Kansas
1930-33, Assistant Prof. Physiology and Pharmacology, U. of Georgia
1933-34, Professor and Head of the Department of Physiology, U. of M.

ALONZO EDWARD HARDISON, JR., B.S., M.D.

Instructor in Anatomy, Histology, and Embryology

1. Academic Qualifications
B.S. Degree U. of Tenn. Knoxville, 1919
M.D. Degree U. of Tenn. Med. School, Sept. 1934
2. Teaching Experience—5 years in U. of Tenn. Med. School.
1929-33, Instructor in Anatomy and Histology in the U. of Tenn. Med. School, Memphis, Tenn.
1933-34, Instructor in Anatomy, Histology and Embryology U. of Miss. Med. School

HICK HARTSELL McCLANAHAN, JR., A.B., M.S.

Instructor in Physiology and Pharmacology

1. Academic Qualifications
A. B. Degree Miss. College, Clinton, 1929
Two years in Medicine, U. of Penn. Med. School, 1929-31
M.A. Degree, U. of Tenn., 1933
2. Teaching Experience—4 years of Science.
1928-29, Undergraduate Fellowship in Zoology,

Mississippi College, Clinton, Miss.

1931-32, Instructorship in Chemistry, U. of Tenn., Memphis, Tenn.

1932-33, Teaching Fellow in Physiology, U. of Tenn. Medical School, Memphis, Tenn.

1933-34, Instructor in Physiology and Pharmacology U. of Miss. Med. School

BILLY SYLVESTER GUYTON,

A.M., M.D., Oph. D., F.A.C.S.

1. Academic Qualifications
A.M., U. of Miss., 1911
M.D., University of Va. Med School, 1913
Oph. D., University of Colo. Med. School, 1919
2. Teaching Experience—12 years in the U. of Miss. Medical School.
1915-20, Prof. of Bact. and Path., U. of Miss.

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Med. School

1927-34, Assistant Professor in Minor Surgery,
U. of Miss. Medical School

ASHFORD HUNTER LITTLE, B.S., M.D.

Adjunct Professor of Medicine, Physical Diagnosis,
and Obstetrics

1. Academic Qualifications
B. S., University of Mississippi, 1920
M.D., Tulane University Med School, 1923
2. Teaching Experience—6 years in the U. of
Miss. Med. School.
1928-34, Instructor in Medicine, Physical Di-
agnosis, and Obstetrics, in the U. of
Miss. Med. School.

HENRY ALLOWAY, R.N.

Technician and Dieter in the Laboratories of Bacteri-
ology, Pathology and Clinical Laboratory Diagnosis

Student Assistant in Anatomy
Student Assistant in Pharmacology
Student Assistant in Physiology
Student Assistant in Chemistry

1. Academic Qualifications
1922-25, Training Course for Nurses in the
Gartley-Ramsey Hospital Training
School for Nurses, in Memphis, Tenn.
1925, Course in Surgical Anaesthesia, Chi-
cago Post Graduate Hospital
1930-34, Special Student in Clinical Diagnosis
in the U of Miss. School of Medicine
2. Laboratory, and Class-Room Experience—4
years in the U. of Miss. Med. School
1930-34, Technician and Dieter in the Labo-
ratories of Bacteriology, Pathology,
and Clinical Diagnosis, in the U. of
Miss. School of Med.

WILLIAM GREGORY HARKINS, A.B., B.S.
Full-Time Librarian for the Medical Library

ANNA ESTELLE MORGAN

Secretary to the Dean of the Medical School

HOUSING CONDITIONS: The building program
has been in progress here since commencement day.
The old Medical Building is being completely worked
over, and the new Hospital Building will be completed
with the exception of two small wings. The State
Legislature appropriated \$75,000 for this purpose. The
sick students will be cared for in the new Hospital
Building, and the Dean's office, Bacteriology and
Pathology, and Physiology Departments will be moved
into the new Hospital Building. The laboratories of
Physiology, and Bacteriology and Pathology, will have
practically all new equipment. Pharmacology will re-
main in the basement of the old Medical Building, and
Anatomy, Histology, and Embryology, will be on the
third floor. The rest of the building will be used by

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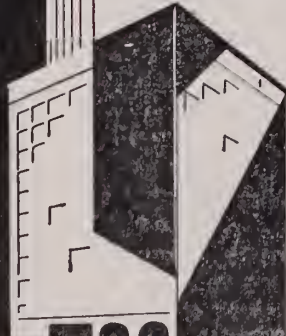
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"Boots go on feet; so do men.

"Boots sometimes get tight; so do men.

"A boot will shine when polished; so
will a man.

"Some boots have a red top; so have
some men.

"Boots are tanned; so are men (most-
ly in their youth.)

"Boots are imitation calf so are some
men.

"Some boots can't stand water; nei-
ther can men.

"When a boot is well soaked it is a
hard case; so is a man.

"A boot to be of much account must
have a mate; so must a man.

"A boot when well heeled always feels
comfortable, so does a man.

"The less understanding there is in
a boot the bigger it feels; so it is with a
man."

Judge (in dentist chair): Do you swear
that you will pull the tooth, the whole
tooth, and nothing but the tooth.

the Department of Biology of the University of Mississippi. Chemistry will remain in the Chemistry Building. There will be an Out-Patient Department, and X-Ray Department, an Autopsy room, and a well equipped Laboratory room for Clinical Microscopy in the new Hospital Building, and provisions have been made with members of the faculty to look after all of this work. We will devote more time and attention to history taking, Physical diagnosis, and Clinical Microscopy, than heretofore in this Medical School.

CURRICULUM: The curriculum has been completely revised to comply with recommendations and requirements of the accrediting associations in medical education.

X-RAY LABORATORY: A complete new X-Ray laboratory is being equipped in the new Hospital Building, and is to be operated under the direction of a member of the faculty of the Medical School.

CLINICAL MICROSCOPY LABORATORY: A Clinical Microscopy Laboratory on the ground floor of the new Hospital Building is being installed with all new equipment. This laboratory is to be used in the hospital and the Medical School.

DEPARTMENT OF CLINICS: There will be a Department of Clinics under the management of the Medical School and participated in by the practicing physicians of Oxford and surrounding territory.

OUT-PATIENT DEPARTMENT: The Out-Patient

Department will be managed in connection with the Department of Clinics, and will be conducted by the same personnel.

The next session of the Medical School begins September 21, 1934, with a full quota of students who have been selected with a great deal of care. In fact, no stone has been left unturned to make the Ole Miss Medical School second to none anywhere.

The freshman class for the coming session, by the way, is made up of native Mississippians, with but one exception, and this young man is from the University of Arkansas, and a brother-in-law of the Professor of Biology in the University of Mississippi.

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Address of Welcome, Miss Grace Towery, Houlka, Miss.

Song Miss Lillie Frances Hood, Houlka, Miss.

Opening Prayer Rev. S. P. Andrews, Houlka, Miss.

Song Miss Mabel Wessels, Houlka, Miss.

Opening Exercises President



Dr. W. C. Walker, the spirit of Houlka. In eloquence he is the Sargent S. Prentiss of the North East Mississippi 13-County Medical Society. He is loved and revered throughout the state by the entire medical fraternity. His patriotism begins at home. He puts Houlka first and last and in the middle. This little town is shaded by the blue sky at an equal distance on either side, the dome is so perfect and the sky is tinted kindly. The atmosphere is fresh and invigorating. The people are kind and friendly. They are God-fearing and church going. They are optimistic and courageous. It is the spirit of Dr. Walker. It is the home of Dr. J. M. Hood, president of the society and one of the stalwart practitioners of our society.

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Mother: "What on earth can I do"

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Auto Salesman: Yes, sir, this car is absolutely the very last word.

Customer: Good! I'll take it. My wife loves it.

∴ CHANGE OF DATE ∴

On account of the election our North East Mississippi 13 County Medical Society is meeting on the 12th instead of the 18th. Next Wednesday is the day, September 12.

Dr. McLester, President of the American Medical Association, will be our guest. Dr. Pride of Memphis is our guest speaker. The program is good. Many will be the nice features. Jump in your car and hustle off to it.

WEDNESDAY, SEPTEMBER 12, IS THE DAY

Public Health News

Jackson, Mississippi
September 4, 1934

Dr. W. H. Anderson, Editor
The Mississippi Doctor
Booneville, Mississippi

Dear Dr. Anderson:

Several items are enclosed which you may use. I thought the letter from Australia was good; we considered it quite a compliment.

The copy of letter from Dr. W. A. Evans will be of interest to many. I am sending two pictures of him and a copy of resolution passed by The Overset Club about him. An illuminated picture of Dr. Evans will be placed in the State Board of Health library with the following wording on a plate:

William Augustus Evans, M.D., 1865-

A worthy Mississippian of notable attainments
A pioneer in modern public health practices
An outstanding teacher of preventive medicine
An able historian and medical writer.

Dr. Evans is being praised and honored by others, and I believe if you would have a special W. A. Evans issue, it would be a recognition and compliment which we can well give him. I don't believe any other Mississippi physician has reached such heights as he. If you think well of the idea and would like for me to send you a detailed personal history and other items I may have about him, I shall gladly do so.

With best wishes, I am

Very truly yours,

FELIX J. UNDERWOOD

The above letter has just been received from Dr. Underwood and the editor has asked him to help make the plans for the issue of The Mississippi Doctor to be dedicated to Dr. Evans.

Dr. C. C. Applewhite, who for eight years directed full-time county health work in Mississippi, was a recent visitor to the department. Dr. Applewhite is at present with the South Carolina State Board of Health.

For two weeks in July, Dr. Luis M. DeBayle Minister of Public Health in Nicaragua, visited the Mississippi State Board of Health. Dr. DeBayle studied the public health activities in Mississippi having in mind their application in his own country, as health problems in Mississippi are similar to those in Nicaragua. Dr. DeBayle is a nephew of the President of Nicaragua and is himself a famous personage having served as Minister from his country to the United States and being a surgeon of repute. He holds a Certificate in Public Health from Johns Hopkins University, and will return there this fall to earn his Master's Degree in Public Health.

Dr. T. A. Boone of the University of Tennessee Dental College, who will succeed Dr. Walter McFall as director of dental activities of the Macon and Bibb (Georgia) Health Department, spent two days during July in Mississippi reviewing the mouth hygiene program. Mississippi always is honored to have visitors from other states and countries who feel that our public health program is worthy of study.

Drs. N. C. Knight, A. R. Perry, and C. J. Vaughn have returned from a year's public health study. Dr. Perry was awarded his Master's Degree at Harvard University. He is now director of the Adams County Health Department. Drs. Knight and Vaughn were awarded Certificates in Public Health at Johns Hopkins University, and returned to their previous fields of service in Sunflower and Holmes County respectively.

Word has just been received from the Rockefeller Foundation that Dr. H. B. Cottrell of Sunflower County and Dr. V. B. Harrison of Coahoma County have been selected for fellowship this year. The fellowships are for a year's study at either Harvard or Hopkins.

"Poverty degrades the poor and infects with its degradation whole neighborhoods in which they live, and whatever can degrade a neighborhood can degrade a country and a continent and the whole world. Its bad effects cannot be escaped by the rich. **When poverty produces outbreaks of virulent infectious diseases, as it always does sooner or later, the rich catch the disease and see their children die of it.** When it produces crime and violence the rich go in fear of both and are put to a good deal of expense to protect themselves; when it produces bad women and language, the children of the rich pick it up no matter how carefully they are secluded. If poor and pretty young women find, as they do, that they can make more money by vice than by honest work, they will

poison the blood of rich young men who, when they marry will infect their wives and children and cause them all sorts of bodily trouble sometimes ending in disfigurement, and blindness and death, and always doing them more or less mischief. The whole notion that people can "keep themselves to themselves" and not be touched by what is happening to their neighbors or even to people who live a hundred miles off, is a dangerous mistake. The saying that we are members one of another is not a mere pious formula . . . it is a literal truth, for tho the rich end of the town can avoid living with the poor end, it cannot avoid dying with it when plague comes. They will not be able to shut out the sights and sounds and smells of poverty . . . not to feel sure from day to day that its most violent and fatal evils will not reach them thru the strongest police guards. We shall never be sure it will not overtake ourselves. We see the most innocent and respectable families falling into (it) every day: and how do we know that it will not be our turn next?"—Bernard Shaw.

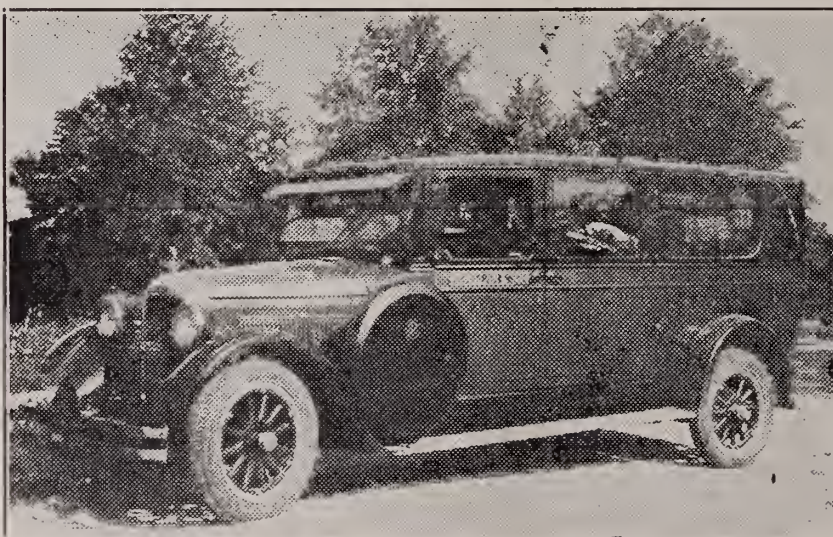
An elderly woman was escorting two little girls around the Zoo. While they were looking at the stork she told them the legend of the ungainly bird—how it was instrumental in bringing them to their mamas.

The children looked at each other with sly glances and presently one whispered to the other.

"Do you think we ought to tell the dear old thing the truth?"

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THE MISSISSIPPI DOCTOR

OFFICIAL ORGAN

MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

VOL. 12

BOONEVILLE, MISSISSIPPI, OCTOBER, 1934

NO. 5

Eulogy To The Doctor

By Robert Louis Stevenson

There are men and classes of men that stand above the common herd, the soldier, the sailor, the shepherd not infrequently, the artist rarely, rarer the clergyman, the physician almost as a rule. He is the flower of our civilization and when that stage of man is done with, only to be marvelled at in history he will be thought to have shared but little in the defects of the period and to have most notably exhibited the virtues of the race. Generosity he has, such as is possible only to those who practice an art and never to those who drive a trade: discretion tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are more important, Herculean cheerfulness and courage. So it is that he brings air and cheer into the sick room and often enough, though not so often as he desires, brings healing.

DEXTRI-MALTOSE, over 23 years, Carbohydrate of Choice

1911

"The limits of assimilation of the different sugars vary and are as follows:

"Grape sugar: In babies, about 5 grams per kilogram (Langstein and Meyer).

"Grape sugar: In one-month baby, 8.6 grams per kilogram (Greenfield).

"Galactose: No accurate data.

"Levulose: (Lower for babies than adults.) One gram per kilogram (Keller).

"Maltose: Over 7.7 grams per kilogram (Reuss).

"Lactose: 3.1-3.6 grams per kilogram (Grosz).

"Cane sugar: Probably about the same as lactose (Reuss)."—J. L. Morse, and F. B. Talbot: *Physiology and pathology of the digestion of the carbohydrates in infancy*, Boston M. & S. J., 164:852-855, June 15, 1911.

1912

"Maltose has for many years been considered one of the most valuable of infant foods in modifying milk formulas; but the German school in the last few years has called special attention to the value of this sugar as a substitute for milk and cane sugars in conditions of intestinal fermentation. It is more easily assimilated and more rapidly absorbed than lactose or saccharose and it may be taken therefore by the infant in larger quantities without producing sugar fermentation."

"Maltose is especially indicated in the feeding of very young and delicate infants, and in all cases where either milk or cane sugar has produced intestinal fermentation and sugar intoxication. In the feeding of maltose it has been found advisable to combine it with about equal parts of dextrin. In Germany, and later in this country, 'Soxhlet's Nahrzucker' (which contains maltose 52.44 per cent., dextrin 41.26 per cent., and sodium chlorid 2 per cent.) has been largely used. Mead's Dextrin-Maltose (malt sugar), which contains about equal parts of dextrin and maltose, is a similar preparation which may be used instead of milk sugar or cane sugar for modifying milk mixtures."—B. K. Rachford: *Diseases of Children*, D. Appleton & Co., New York, 1912, p. 125.

1913

"It is well to start with one ounce (albumin milk, or albumin-buttermilk) to every pound of body-weight in the twenty-four hours, increasing gradually until two or three ounces to the pound of body-weight are being given. Then add sugar, preferably a malt sugar, about one-fourth of an ounce at a time to the twenty-four-hour quantity, until an ounce or an ounce and a half is being given."—J. Foote: *Principles of treatment in malnutrition and atrophy of infants*, Interstate M. J., 20:1913, No. 6.

1914

"Milk sugar and cane sugar may be used in infant feeding, but my preference is for malt sugar. Mead and Johnson put up a convenient preparation which they call Dextrin-Maltose and which consists of maltose 51 per cent., dextrin 47 per cent., sodium chloride 2 per cent., and which has a food value of about 110 calories per ounce."—J. A. Gannon: *Whole milk dilutions in feeding normal infants*, Washington Med. Annals, 13:38-43, Jan., 1914.

1914

"Dextrin-maltose causes the greatest gain in weight, cane sugar less, and lactose produces the least gain."—M. S. Reuben: *Observations on milk station infants*, Arch. Pediat., 31:176-196, March, 1914.

1914

"A composite opinion of the sugars is in favor of dextrin-maltose, milk sugar and cane sugar in the order named."—R. A. Strong: *Essentials of modern artificial feeding of infants*, Lancel-Clinic, March, 14, 1914.

1914

"Experiments show that sugars vary in their rate of absorption, some being assimilated rapidly, while others distribute their nutriment over a longer period. For example, maltose is most promptly assimilated, cane sugar next and milk sugar slowest."

"The condition in which dextrin-maltose is particularly indicated is in acute attacks of vomiting, diarrhea and fever. It seems that recovery is more rapid and recurrence less likely to take place if dextrin-maltose is substituted for milk sugar or cane sugar when these have been used, and the subsequent gain in weight is more rapid."

"In brief, I think it safe to say that pediatricians are relying less implicitly on milk sugar, but are inclined to split the sugar element, giving cane sugar a place of value, and dextrin-maltose a decidedly prominent place, particularly in acute and difficult cases."—W. D. Hoskins: *Present tendencies in infant feeding*, Indianapolis M. J., July, 1914.

1915

"In the severe cases (of diarrhea) he (Benson) uses Finkelstein's casein milk with malt sugar. He also believes that dextrin-maltose is

to be preferred to milk sugar or any other sugar, as the infants gain more rapidly and digest more easily this form of sugar."—R. A. Benson: *Observations on 1,500 artificially-fed infants*, Med. Century, Feb., 1915, p. 33; *abst. Arch. Pediat.*, 32:556-557, July, 1915.

1915

"Until very recently we have taken it for granted that milk sugar was the best, but now many consider that malt sugar is even better. However, the malt sugar is not used in its pure state, but in the form of extracts, as dextrin-maltose."—E. B. Lowry: *Your Baby*, Forbes & Co., Chicago, 1915, p. 162.

1915

"Cane-sugar (saccharose), like most of the other disaccharids, is not absorbed as such, but must first be split by the invertase of the intestinal secretion into the two glucoses, dextrose and levulose, which are readily absorbable. Maltose (malt-sugar) occupies an exceptional position among the disaccharids, in being partly absorbable as such. This is probably due to the fact that it can be split not only by the maltase of the digestive juices, but also by the same ferment being present and active in the circulating blood (Cuttenden and Mendel)."

"Anticipating a little, we may mention that all cases, in which lactose may advantageously be replaced by other carbohydrates, are pathological, and without exception the result of unsuccessful attempts at artificial feeding; they will therefore be discussed under that head."

"Dextrin, intermediate between sugar and starch, is physiologically nearer to the former; we shall have occasion to see that, under certain conditions, it may supplement sugar very advantageously. Given together with maltose, it materially delays the fermentation of the latter; Stolte observes that the more complex the carbohydrate the longer fermentation is postponed."

"All malted foods contain dextrin, and there is reason to believe that their value largely depends on their being somewhat complicated; such, at least, is the opinion of Usuki and Stolte, who believe that a mixture of carbohydrates is more slowly absorbed than a pure sugar, and therefore tends to check fermentation in the intestine. Southworth explains the matter more definitely, by attributing the antifermentative action entirely to the dextrin, which is not fermentable as such, but only after it has been split into maltose, a process that takes place only gradually, and in the later stages of digestion."

"I make it a rule to give the ordinary formula with dextrin-maltose whenever the usual milk or cane-sugar mixtures seem to cause excessive fermentation and colic, or are attended with the evacuation of soap stools. I decidedly prefer this, as a preliminary measure, to going over at once to some very low fat combination, which can only be a temporary makeshift at best. I also find dextrin-maltose an excellent addition to albumin-milk when the first object of that food has been achieved and a gain in weight is desired; in this way I have succeeded in feeding albumin-milk far beyond the period usually advised, with highly gratifying results."—F. L. Wachenheim: *Infant-Feeding: Its Principles and Practice*, Lea & Febiger, Phila., 1915, pp. 31, 33, 146, 158.

1915

"The infant with diarrhea and vomiting is given nothing but tea for from twelve to twenty-four hours, no longer, and then the albumin milk is commenced, not over 5 gm. ten times a day, with 3 per cent. of a maltose-dextrin mixture. The amount of albumin milk is increased by 50 gm. each day until the daily ration totals 300 gm. After the weight has become stationary, carbohydrates can be added up to 5 per cent. of the maltose-dextrin mixture."

"Albumin milk is not so uniformly effectual in dysenteriform diarrhea as in cholera infantum. Whey seems to act better, diluted half and half with oatmeal gruel. After the starvation period he gives 50 gm. of the whey and increases by 50 gm. daily with equal amounts of oatmeal gruel. As improvement sets in 3 per cent. of a dextrin-maltose preparation can be added."—L. Langstein: *Cholera infantum and other severe diarrheas in infants*, Therap. Monatsh., V. 29, August, 1915; *Abst. J.A.M.A.*, 65:1314, Oct., 7, 1915.

1916

"Dextrin-maltose, having a higher absorption tolerance than the other sugars, is less likely to cause intestinal disturbances when large amounts of it are given."—H. R. Mixsell: *A brief résumé of the role of carbohydrates in infant feeding*, Arch. Pediat., 33:31-36, Jan., 1916.

1916

In cases of malnutrition, and indigestion in infancy, "The appetite improves rapidly, and the stools soon become normal in appearance, if the sugars are intelligently prescribed. By this I refer to proper proportions of dextrin and maltose. When there is a tendency to looseness, I have used the preparation known as 'dextrin-maltose', for the extra carbohydrates; . . ."—M. Ladd: *Further experience with homogenized olive oil mixtures*, Arch. Pediat., 33:501-512, July, 1916.

Continued down to 1934

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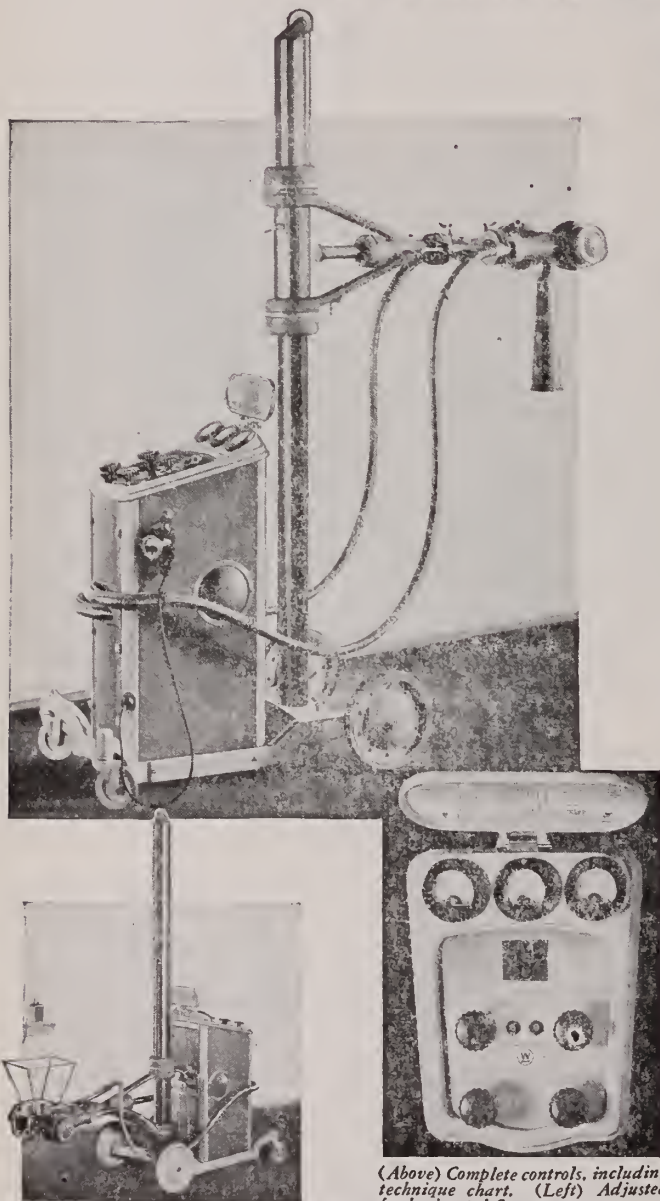


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The Mississippi Doctor

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MRS. W. H. ANDERSON, Assistant Editor

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Entered as second-class matter, January 18, 1926,
 at the post-office at Booneville, Miss., under
 the Act of March 3, 1879.

This Issue of The Mississippi Doctor Dedicated to Dr. W. A. Evans

It gives us much pleasure to dedicate this issue of The Mississippi Doctor to our Dr. W. A. Evans, of Aberdeen, Monroe County, Mississippi. He has been out of the states for some weeks and is receiving a most cordial reception every where he goes. Thousands and even millions of people gave up his health column in the big dailies with much regret. He had the ability to take the most intricate medical fact and digest it down, condense, simplify, sum it all up and put it in a "nut's shell." For this type of work but few are gifted. By the masses and all it was soaked up and the appetite is keen for more. We can not measure the good he has done. The demand for more of his product is urgent. The masses must have further light on the mysteries of the known medical truths before the medical profession can go forward in application of curative and preventive medicine. We know much about malaria, but we are not gaining on the problem. The death rate is increasing. Education of the masses is the answer, in the main. Dr. Evans has done his part so well. He is a very versatile man. His mind swings with ease into a problem of any type. In this respect he is a George Washington. We regretted to give up his daily lessons. But we are glad for him to have the pleasure of doing just what he wants to do now for a period. "The work we like to do physics pain." He may feel the urge of duty to do the work he is now undertaking, it may be just for the love and joy of doing it. We are proud of him. We trust that he will find time to contribute to The Mississippi Doctor since we now count him one of our local members. A man full of knowledge and wisdom and human love, may his years in the future be many.

The average intern that comes out of the average charity hospital has as much to un-learn as he has learned. For example he does not know that gauze and adhesive and medicine cost anything, nor instruments. He thinks he is duty bound to talk short and pert and many times insulting to every patient that comes in. And it is perfectly all right for a patient to wait all day and even into the next day. It is all right to take an hour to do an operation that can be done just as well in five minutes. He learns nearly everything except the things he needs when he gets out to practice, courtesy, economy, efficiency, work.

Eighty-five percent of the general practice should be done by eighty-five percent of the rank and file of the medical profession. The general practitioner should be the most liberally educated man of any profession. He should have to begin with a professional mind, a medical soul and a missionary heart. This has been and will be the teachings of The Mississippi Doctor.

We appreciate an invitation to attend the semi-annual meeting of the Delta Medical Society which met in Greenville on October 10. The papers in this society are always fine and the fellowship does you much good.

And yet one of the South's major problems, socially and economically is Malaria. For many years we have known the offending parasite. We have known that it is conveyed from one person to another by the female anopholes mosquito which does the greater part of her biting between sundown and sunrise. We have known what we thought was the specific treatment for it. New "specifics" have come into use the last two or three years. The microscope is being used more and more. The graduates added to the ranks of the profession have had more thorough training. Campaigns for drainage and screening have been more active. Everything has looked favorable except the death rate for malaria which is on the increase. We must ask some questions. Are we really dealing with the problem of malaria? Will quinine cure malaria when given according to the standard plan? If it will cure can you get the average patient to take the standard treatment? A college professor can force a few charity patients to take it, but we are talking about the mass of people infected. It is certain they are not doing it and are not going to unless we have a different plan some way. Shall every person be forced to take quinine once or twice a year, will the government make appropriation sufficient to pay for the quinine, atabrine, plasmochin or whatever is given? Shall the major attack on malaria be aimed at the mosquito or man, or both? Shall you withhold quinine until the parasite is found in the blood? Shall the doctor treat the one case in the family who has the chill or treat the entire family? These are just a few questions we are asking to the medical profession of the Mid-South, or any where. We want you to answer in brief replies to be published in *The Mississippi Doctor*. We are not making progress with the problem of malaria. We want to hear from some one who has a plan of attack on the problem that will get results, a plan that is practical and can be executed. We want to hear from the highest to the lowest, we mean from the specialist and from the practitioner. We forgot to say that not one person out of four believes that malaria is transmitted by the mosquito. How will you get the other four to believe?

The September meeting of the North East Mississippi 13 County Medical Society was mighty good. We had a fine bunch of visitors. Drs. McLester and Graham of Birmingham gave us a wonderful discourse on the heart. Dr. Pride of Memphis gave a most wonderful discourse of the Conduction of Normal Labor. It was sound and sensible and his plan is one that can really be followed by a big majority of practitioners. The other papers were unusually good. It was fine to breathe deep of the spirit of Houlka, of Walker and Hood. The good fellowship of the out of state men coupled with the warm hearted welcome on the part of the doctors of Houlka and Chickasaw county crowned by the bountiful dinner served by the splendid ladies of the kind and generous village made it a most wonderful half day. The professional mind was fed, the appetite was supplied until every one cried enough, and the fellowship must have been refreshing and beneficial to every one. We shall long to go back to Houlka, to the friendly city, full of simple faith, friendship and good will to man. May the days of Walker and Hood be multiplied.

It was quite a distinction to have Dr. McLester of Birmingham. President-Elect of the American Medical Association with us at the September meeting of the North East Mississippi 13 County Medical Society. It is the business of the president to sell the medical profession to the public and at the same time to strengthen its own members in the faith of course. Dr. McLester has a fine personality and he is a pleasing speaker. He will do the job well. Mississippi feels a pride in his success, our society especially. Come to see us often. The latch to the gate of our society hangs on the outside.

Among the prominent visitors attending the North East Mississippi 13 County Medical Society at Houlka: Dr. Kyle Motley, Memphis, Dr. W. T. Pride, Dr. Whitman Rowland, Dr. Steve Coley, Dr. J. A. Ansler, Dr. W. M. Adams, Dr. R. C. Bunting, Dr. J. S. Speed, Dr. C. D. Blassingame, Dr. J. H. Harris, Dr. J. L. McGhee, Dr. Tom Moore, Dr. A. F. Cooper, Dr. Edward Clay Mitchell, Dr. R. L. Sanders, Dr. P. L. Mull, University, Miss., Dr. J. S. McLester, Birmingham, Ala., Dr. G. S. Graham, Birmingham, Ala., Dr. S. Sanders, Memphis, Tenn., Dr. Carr, Memphis, Tenn., Dr. W. H. Blake, Sheffield, Ala.

May the Lord of human mercy save the medical schools from the teachings of the Ph.D. The average good common sense brain of the kind hearted young fellow who has the spirit of service just rebels at the amount and the class of stuff he tries to cram in. A medical school like other schools, need teachers, Ph.D. or no Ph.D.

We were glad to have Dr. W. H. Blake, of Sheffield, Ala., at the last meeting of the North East Mississippi 13 County Medical Society. We are glad to have him as a new subscriber to *The Mississippi Doctor*.

We are delighted to have the new department for the hospitals under the direction of Dr. Lippincott. If it keeps up the record of the first installment it will be one of our most interesting and beneficial sections.

The aim of *The Mississippi Doctor* is to cover every phase of the practice of medicine. Our slogan is to publish the cheapest and the best journal in this country. We would like to have a few hundred new subscribers. The new deal price of one dollar.

Don't forget to send us some answers on the questions on malaria. *The Mississippi Doctor* must lead the way to the solution of the problem.

You will have a dandy good issue in November. We have the paper on tap, ready, one nice new department, too.

DR. SEALE HARRIS
Gastro-intestinal and Nutritional Diseases
Diagnostician
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Customer: Good! I'll take it. My wife loves it.

The Editor is under lasting obligations to Dr. Joe Green, a class mate of two schools, for an invitation to appear on the program of the South Mississippi Medical Society which met at the Pinehurst Hotel on September 13th. Dr. T. E. Ross Jr., presided as president. Dr. Joe Green was the chief local entertaining engineer. Drs. McLester and Graham of Birmingham were honored guests. Dr. T. B. Sellers of New Orleans was a special out of town essayist. The scientific program was fine without an exception. It was the most prosperous and professional looking bunch of doctors we have seen in a long while. Their good fellowship and cordiality was unbounding. A wonderful banquet was served at the Pinehurst Hotel. One of the choicest steaks we have seen in some years was the corner stone of the menu. Judge Pack made a fine talk to the doctors. Dr. McLester gave us a fine dissertation on the inner workings of the American Medical Association. Dr. McLester has a pleasing personality and will be quite able to sell the aims of the profession to the general public. Dr. Sellers and Dr. McKinnon made interesting talks along with others. Dr. Joe Green said some nice things about The Mississippi Doctor which made us feel good. It was a fine meeting. It was good to be there. The professional fellowship, and too the Laurel air breathes good. The ozone is refreshing. It is a progressive city. It is perhaps the most cosmopolitan in this state. It is the industrial center of our commonwealth. We thank you, Dr. Joe, for your invitation.

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∴ WILLIAM AUGUSTUS EVANS ∴



Born August 5, 1865, son of William Augustus and Julia Josephine (Wyatt) Evans.

B.S., M.S., Mississippi A. & M. College, 1883.

M.D., Medical Department, Tulane University of Louisiana, 1885.

M.D., University of Illinois.

LL.D., University of Mississippi.

D.P.H. University of Michigan.

Fraternities: Nu Sigma Nu, Alpha Omega Alpha, Delta Omega.

Dr. Evans has been professor of pathology in the University of Illinois. He was professor of public health at Northwestern University from 1908 until 1928. From 1907-11, he was Health Commissioner of Chicago. From 1911 until his retirement a few months ago, Dr. Evans was a member of the Board of Health Advisory Commission of Chicago and a member of a similar Board for Cook County, Illinois, and Health Editor of the CHICAGO TRIBUNE. Dr. Evans was best known for his How to Keep Well column which

was run daily by newspapers throughout the United States and read by people everywhere.

Among other honors to Dr. Evans are the Presidency of the Chicago Medical Society in 1902, and the Presidency of the American Public Health Association in 1916.

The Transactions of the State Medical Association show that Dr. W. A. Evans joined the State Medical in 1885, the year he earned his Master degree.

In the 1888 Transactions "W. A. Evans, Jr., Aberdeen" was one of the thirty-seven physicians attending the State Medical meeting.

In 1889, we find Dr. Evans listed as First Vice-President of the State Medical and a member of the Committee on Necrology and that year he gave a paper **Fever, with Special Reference to Thermogenesis**. The summary of this paper is as follows:

"For a summary, gentlemen, I offer the following:

"Fever, a condition of pyrexia, with certain digestive respiratory, circulatory and excretory phenomena as incidentals, is a neurosis, caused by a change in heat production, which is controlled by nervous centres, excitator and inhibitory, which centres act through moto-stimulated nerves upon all the tissues of the body, resulting in chemical compounds the same in quality as in health, and the same ratio one to the other with the possible exception of water; and, in addition, by change in heat dissipation which is presided over by centres acting through the vasomotor nerves upon involuntary muscles principally in arterial coats; and, upsetting of the normal relation between these two systems; and, that this upsetting comes from micro-organisms, alkaloids, ferments or nervous irritation, and that while the question of the effect of pyrexia or hyper-pyrexia is in medias res we have, in antipyretics, agencies that save tissue and establish a more nearly normal relation between production and dissipation.

"I must give my thanks for information to Drs. Welch, Flint, Ott, Wood, Reichert, Hare, Kemp, Colmar and many foreign investigators. For valued and valuable assistance, I desire to thank Mr. J. L. Shell, pharmacist."

Mississippi's Agricultural and Mechanical College opened its doors for the admission of students in October, 1880. William Augustus Evans, Jr., of Aberdeen was one of the students to register. In his graduating class in 1883, there were eight members.

The legislative act founding the Mississippi A. & M. College was approved February 28, 1878, but the Board of Trustees, delayed by the yellow fever epidemic, did not select its site just southeast of Starkville until the following winter. The erection of the first building was begun in 1879.

Dr. B. M. Walker wrote of its beginnings:

"When the college opened in 1880, the conditions were very crude and primitive. The college boys worked in the fields, grubbing stumps, clearing land, and filling ditches at eight cents an hour for their work. At night they brought in their own coal to their rooms and made their fires. They drew their water from the deep wells on the campus with rope and bucket and carried it up to their rooms in the dormitories. The mess hall, kitchen, and dining room were in the basement of the old chapel building, with only dirt floors a part of the time."

Dr. Evans was back in Mississippi in 1933 to join

with others in celebrating the fiftieth anniversary of the first graduating class of Mississippi A. & M. College (now called Mississippi State College).

While Dr. Evans was Chicago Health Commissioner, he was successful in getting the City Council to pass a compulsory pasteurization ordinance. This was the first city in the world to have a compulsory pasteurization ordinance.

The following editorial about this appeared in the August 8, 1908 NEW YORK EVENING MAIL:

"Chicago, Aug. 8.—This City, under the leadership of Dr. W. A. Evans, Commissioner of Health, has taken the lead in adopting measures for the prevention of tuberculosis, being the first city in the world to take definite steps to stop the sale of milk containing the germs of consumption.

"The City Councils have passed an ordinance requiring that after January 1, 1909, all milk offered for sale in the city shall be pasteurized, unless it comes from cows that have been tested with tuberculin within a year, and that have been proved to be free from tuberculosis.

"Similar ordinances have been passed requiring that no butter or cheese shall be sold in the city unless made from the milk of tuberculin-tested cows or from pasteurized milk.

"Dr. Evans, in his long fight for the adoption of these measures to prevent the spread of tuberculosis, cited the demonstrations made in New York City by Nathan Straus and the proofs given in European cities by the the American philanthropist.

"He pointed out that an American layman had taught the whole world how to successfully combat the great white plague, and that the most American of cities ought to take the lead in adopting and enforcing Mr. Straus' practical and efficient scheme for the saving of human life and the curbing of the most dreaded of all diseases."

The following is a copy of letter from Nathan Straus to the Mayor of Chicago congratulating him on the movement.

"New York, Dec. 26, 1908.

My dear Sir:

About six years ago I visited Chicago with the avowed object of TEACHING your people something about milk and its relation to the public health.

On that occasion I met, among others, Dr. Frank Billings and Dr. Fernand Henrotin. So deeply did they impress me with their zeal in grappling with the dangers lurking in unclean milk, that I remarked the time would come when the people of Chicago, under the leadership of such progressive scientific men, would TEACH ME something about the subject that had engaged my active interest since 1892.

This may have seemed at the time the expression of a thought born of a hope inspired by the cordial welcome your people gave to one who had come to them with a mission. In the light of what has oc-

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curred since my visit to Chicago it may have been an intuition.

During the years that followed my visit, I watched with interest and increasing satisfaction the beneficent results of the dispensing of pasteurized milk in your city by the Milk Commission, under the leadership of Dr. Billings.

When a new Commissioner of Health was appointed in 1907 after Chicago had been scourged by scarlet fever that was definitely traced to the milk supply, I wrote on April 27 to the new Commissioner. Dr. W. A. Evans, again offering my services, and he came to this city, affording me the pleasure of personally showing him my laboratory and the process of making milk safe from such infections as had caused Chicago so much sickness and so many deaths.

I, therefore, wish to be among the earliest to congratulate your municipal government for having conferred upon Chicago the splendid distinction of being the first city in the world to enact a law making it obligatory for its milk supply to be pasteurized, except the small portion of it that comes from cows proved to be free from tuberculosis, and requiring also that the cream used in making butter be pasteurized.

When this law becomes operative, it will mark an epoch in health-protecting, disease-preventing legislation. For the first time in the history of civilization the common means of spreading the White Plague will strike the stone wall of LAW. Thus you vindicate my intuition of six years ago.

When Chicago's milk supply is **HONESTLY** pasteurized, the decrease in the number of cases and in the death rate from such preventable scourges as Tuberculosis, Typhoid and Scarlet Fevers, and Diphtheria will make other cities eager to emulate her example. The saving of human lives in your city will establish new and gratifying figures for the compilers of vital statistics to deal with.

I say "**HONESTLY** pasteurized," for the commercial spirit may seek to evade the law by substituting for the efficient, germ-killing process, a hurry-up method of heating milk for half a minute, which merely preserves the milk and does not kill the disease organisms. This does more harm than good. In order to kill the pathogenic bacteria, it is necessary to keep the milk at 157 degrees for twenty minutes.

I am quite safe in predicting glorious results if Dr. Evans is upheld in the strict enforcement of this law, if half-way measures are not tolerated, if strict supervision is maintained.

Should you so desire, I, or my personal representative, will come to Chicago to give what aid is possible to facilitate the practical organization of your pasteurizing plan.

With best wishes for the success of your philanthropic and humane administration, I am

Very sincerely yours,

NATHAN STRAUS

The Hon. F. A. Busse,
Mayor of Chicago, Chicago, Ill."

Dr. Evans was chairman of the United States Commission on Milk Standards. His leadership in this field alone has resulted in the saving of lives of thousands of babies and was a valued contribution to progress.

In 1932 Dr. Evans completed a book **Mrs. Abraham**

Lincoln.

Mary Todd Lincoln lived with Lincoln during the most important twenty-five years of his life and undoubtedly influenced his character and mentality. We cannot properly appraise Lincoln until we understand his wife, Dr. Evans says, and the world knows practically nothing about her but the unfortunate and malicious gossip that has survived her death.

Dr. Evans takes up every significant aspect of Mrs. Lincoln's life and mind, from a study of her ancestry to the final incidents in her tragedy. He weighs carefully the results upon her of the various influences to which she was subjected: her early home training, her marriage, her life in Springfield and Washington, her participation in politics, her ventures into finance and her acceptance of spiritualism. Dr. Evans then discusses the influence of husband upon wife and of wife upon husband, and concludes with an arresting portrayal of a strange and complex personality.

Dr. Evans is as skilled as a writer of history as a writer on medical subjects.

Mrs. Abraham Lincoln was issued from the press of Alfred A. Knopf, New York.

A BOY FROM MISSISSIPPI LED CHICAGO TO HEALTH

By Virginia Gardner

He gave to the cities of America a new standard of purity in milk and to all the people of America the pattern of a newspaper health column that had as its only measure the yardstick of service.

Now this country boy, graduate of the Mississippi A. and M. College after many years of labor for the good of mankind is preparing to return to the countryside from which he sprang. And this, in tabloid, is the life history of Dr. William Augustus Evans, whose health column in The Commercial Appeal for nearly a quarter of a century has given wholesome, honest advice on ways to combat illness and live longer. His homely wisdom that appeared daily under the head of "How to Keep Well," has exercised a deep influence

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Dr. Evans, in his study at the Union League Club in Chicago, said in his characteristic, decisive, but affable manner, "No one is interested in me personally, or my life story, except the people in Mississippi, and they know all about me.

"In the last 23 years," he continued, "persons have thought not of me personally, but my column. It is a sort of institution. It may have been of some service to health in the country. I hope so. But if so, it is 'it' which has been of service, not myself."

* * *

Most satisfying to him in his recollections of the last 23 years, said Dr. Evans, is the fact that the public looks at health matters now differently from when he first began his course in adult health education through newspaper columns.

"I believe that my column, and those which followed in its wake, were factors of importance in creating this changed point of view," Dr. Evans said. "A chief manifestation of this new attitude is seen in community projects for the prevention of preventable diseases.

"My successors will continue to influence the public on health, but in the future the development will relate more to individual health, in helping men create more effective as well as longer lives for themselves.

"Then service will lie in showing men how to escape such diseases as Bright's disease and heart disease, and how such chronic diseases as diabetes can be lived with satisfactorily."

Dr. Evans, who has retained his southern accent and flavor of speech throughout his long residence—since 1891—in the north, comes from southern stock on both sides of his family.

"It was in the midst of a depression much like the one we've been passing through," he said. "Cotton was selling for only 4 cents a pound and there wasn't much of it to sell. I had heard of Chicago a few years back, after the feeder line of the Illinois Central Railway had been opened up into Aberdeen. So I decided to make the plunge."

* * *

Dr. Evans' forbears came to this country in the early 17th century. The first Evans in America settled in Maryland in 1640, the family moving from there to Virginia and later to Georgia. His father, W. A. Evans was born in Morgan County, Georgia. When the Chickasaw Indians moved out of North Mississippi to the Indian Territory, his grandfather moved to a plantation 11 miles from Aberdeen, Miss. There he prospered and sent his son, W. A. to the University of Mississippi, where he received his M.D. degree.

"My father, though a doctor, went into the Confederate army as a private," Dr. Evans said, "and with the Army of Northern Virginia fought in the battles of Manassas and Antietam before being transferred to the medical corps. In the latter part of the war he was stationed in a hospital, which was in the old Lea home in Marion, Ala.

"Toward the end of the war he met and married the lady living nearby who was to become my mother. She was a descendant of the Rev. Hawte Wyatt, who in 1620 came to this country with his brother, who

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was Sir Francis Wyatt, an early colonial governor of Virginia, to become rector of the old Jamestown Church in Jamestown, Va."

In 1844 his mother was born in Marion, Ala., and in 1865 Dr. Evans was born in the same room of the same house.

When he was a few weeks old Gus Evans moved with his parents to his father's home at Aberdeen, where his father practiced medicine.

* * *

"I can remember my mother recalling how poor we were after the war," he said. "She often told how she returned her bridal calls in an ox wagon."

Gus Evans was educated in the Aberdeen public schools, after which he received his B.S. and M.S. degrees at the Mississippi A. and M. College, now Mississippi State College at Starkville. He received his M.D. in 1885, from Tulane University of Louisiana, New Orleans.

From 1885 to 1891 Dr. Evans practiced with his father in Aberdeen. In 1886 he had been elected vice president of the Mississippi Medical Society.

When he arrived in Chicago in 1891 he knew only one man in the entire city. Feeling lost and strange, he recalled, "like any country boy," and being extremely homesick, the young physician speedily set out upon a career of teaching and practicing medicine. Chicago was at that time in the midst of an epidemic of influenza.

From 1891 to 1908 he was professor of pathology in the Medical school of the University of Illinois, then named the College of Physicians and Surgeons. From 1908 to 1928 he served as professor of public health in the Northwestern University medical school, after which he was made professor emeritus.

"How were you, a young, unbroken doctor from Mississippi, able to make such connections and immediately launch upon a teaching career?" he was asked.

"By main strength and awkwardness, I reckon," replied the doctor.

In 1893 Dr. Evans was one of a group who started the first laboratory in Chicago, the Columbus Laboratory, which was only one of the large number of pioneering steps he undertook.

In 1907 Dr. Evans was appointed commissioner of health of the City of Chicago. He came into the department of health, which he transformed from little more than a name to one of the most useful branches of the government, in the wake of a great epidemic of milk borne scarlet fever.

* * *

This fact, coupled with Dr. Evans' experience with tuberculosis (he had lived in the first tuberculosis hospital in Chicago, built by the county at Dunning in 1899, where he studied the disease and helped inaugurate against tuberculosis in the city) centered his attention on milk.

At that time no city in the United States or elsewhere made it compulsory that milk should be pasteurized or tuberculin tested. No widespread application of the tuberculin test on milk has been made. Dr. Evans determined as soon as he became health commissioner to do three things regarding tuberculosis control: make tuberculosis a reportable disease, go after the tuberculosis in milk, and build a municipal tuberculosis sanitarium.

All these three things were accomplished before he resigned his office in 1911.

In July, 1908, the famous milk ordinance of Chicago was passed by the city council through Dr. Evans efforts and the support given him by Mayor Busse. In 1909 the aldermen, pressed by the milk dealers, tried to repeal the ordinance. A fight ensued, and the ordinance was not repealed. Later other cities rapidly followed in enforcing pasteurization and tuberculin testing of milk.

Aiding him in his fight to prevent tuberculosis was the Chicago Tuberculosis Institute, which was organized in 1899 by the Visiting Nurse Association of Chicago. Dr. Evans is incidentally the only living charter member.

One of the factors which influenced Mayor Busse to appoint Dr. Evans commissioner of health was the doctor's action, on becoming president of the Chicago Medical Society in 1902, in reorganizing the society along democratic lines so that all doctors might continue their education in medicine as they practiced. While he was commissioner he carried this principle of interesting adults in health education into the field of the lay public.

* * *

He inaugurated the bureau of publicity and education, maintaining that the chief work of the health department in prevention of disease lay in educating the public. The bureau established a weekly health story in popular style and distributed it throughout the city. A corps of lecturers was established and made available to clubs and organizations. He himself gave an average of a lecture day throughout his term of office.

He made weekly health bulletins understandable, and through a news service bulletins were posted in many factories, department stores and commercial houses in the city.

Among the "healthgrams" for which he became well known through the weekly "Bulletin" were the following:

"Educate the mother and save the child."

"In saving the child you are saving the state."

"Teasing baby to make it laugh is a crying shame."

"The greatest menace to the nation: a childless home."

"The cow is the foster mother of millions of the

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human race."

"Tender-aged children in factories mean a crippled citizenship."

"While mothers are working in factories, infants may be wasting in the homes."

Infant welfare stations were established by the city under his regime as health commissioner, many of these stations later being taken over by the Infant Welfare Society.

In 1911 he left the office of health commissioner to edit his "How to Keep Well" column. At that time, Dr. Evans recalls, the Tribune contracted for a column on which no one would be able to personally profit, and one which would be entirely dissociated with advertising columns; which would not promote any one compound, medicine, medical or surgical method. The idea was new. A few health columns were in existence, but all for a selfish purpose, he said.

* * *

"Embodied in my contract was the clause that I should be a beneficiary of the column only through my salary, abstaining from private practice and accepting no fees from anybody. I think the contract has been lived up to for 23 years, and that no one has had any advantage from it except that intended for the reading public by means of information. I think the column has enjoyed the confidence of the people, and that they know it has never attempted to exploit them."

In the 22 years and nine months which the column has been published daily, 1,087,447 letters have been received by Dr. Evans. All have been returned to the senders and the names of no individuals have

been kept.

In the course of the 23 years in which he wrote "How to Keep Well," Dr. Evans helped bring about a change in the condition he described in an introduction to his report of the department of health of Chicago for the years 1907-10 as one in which the public had to be "crowded . . . to accept the remedy."

"Much of this report," he wrote, "was written by the commissioner of health, and represents the views of the bureau heads who have made up the department council. It has been the policy of these men to attempt to cure the ills of society as rapidly as the people were willing to have them cured; to prevent preventable deaths as fast as the people were willing to have them prevented. They have not only judged of the situation with regard to a disease, but they have crowded the public to accept the remedy, so far as it would stand crowding. This creates a situation for analysis: that is, as to how rapidly the people are willing to be benefited.

"The men in the department are men of learning, of judgment, of many years' training," he continued. "To them belongs the credit of a department which has done something for the establishment of a belief that American municipalities are capable of beneficent government—a government for permanent good. Credit for this achievement is justly to be shared by the mayor."

* * *

A reflection of Dr. Evans' theory that man is largely in control of his own physical destiny is contained in the two-volume book, "The Rise and Fall of Disease in Illinois," in which he collaborated with

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Dr. Isaac D. Rawlings, then director of the state department of public health, and Drs. Gottfried Kehler and Baxter K. Richardson.

"It may not be universally known," says the editor of this history, "that since the coming of white men in Illinois a considerable number of diseases have been kindled, flamed into consuming plagues and were extinguished altogether, or have left only the dying embers of what may soon be transformed into the ashes of history.

"Cholera, malaria, smallpox, yellow fever, typhoid fever, dysentery and perhaps diphtheria may be included in that group. Tuberculosis, the diarrhoeal infections and scarlet fever once were far more deadly and widespread than they are now.

"These and other diseases were not introduced into Illinois in keeping with some predestined program. . . . On the contrary, they came when the conditions created by man began to be intolerable for them. Nearly all of the factors which have influenced the waning strength of infections were consciously and deliberately employed to improve health conditions."

Dr. Evans' leadership in public health has been recognized widely. In 1916 he was elected president of the American Public Health Association.

From 1912 to 1916 he was president of the National Milk Standards commission, and from 1920 until his recent resignation he was a member of the state board of health of Illinois.

On Nov. 20, 1907, Dr. Evans married Mrs. Idamay Wildberger, of Clarksdale, Miss., whom he met here. She was the daughter of James Smith of Memphis. Mrs. Evans, who was active in infant welfare work, died in January, 1926.

A first cousin of Dr. Evans resides in Memphis, Mrs. Frederick Tombs, daughter of the late R. B. Pegram, of the Southern Railway.

Departing for Cananea, Sonora, Mexico, several days ago, he will visit his brother, Tindall Evans, president of the Cananea Copper Company, until January. He then will join another brother, Herbert Evans, of Panama, on a hunt in the jungles of Central America.

Later he will make his home in the south.

Dr. Evans' successor as editor of the health column in *The Commercial Appeal* is Dr. Royal Copeland, United States senator from New York, and one of the ablest commentators on hygiene, sanitation and preventive medicine in the United States.

Dr. W. A. Evans

In compliance with the request of the Editor-in-chief of this Journal, I will attempt to sketch briefly the life and achievements of, perhaps the most marvelously versatile and brilliant medical man that our nation has produced in all years. I refer to Dr. W. A. Evans, now of Chicago.

Dr. Evans is a scion of pioneer and influential southern families. He was born in Marion, Alabama on August 5th, 1865 and was brought to Aberdeen, Mississippi, by his father and mother, when he was very young. He grew to manhood there, attending the city schools of that city. He was a member of the first class to be graduated from the old Agricultural and Mechanical College at Starkville in 1883.

The same college conferred a master's degree on him in 1888. He graduated from Tulane with degree of M.D. in 1885. After graduating in medicine he associated himself in practice with his father, Dr. W. A. Evans Sr., at Aberdeen. The Board of Health of Mississippi, employed him to assist them in their strenuous but successful effort to keep the state free from yellow fever in 1888 during the Jacksonville epidemic (the last serious menace the state had from this disease). Soon after this time, perhaps in 1890, he went to Chicago to do certain post graduate work. At that time he attracted the attention of, perhaps the greatest teacher of medicine and surgery of all time—namely Dr. J. B. Murphy. Possibly he had already dreamt dreams and seen visions of what his possibilities were. Be this as it may, under the patronage of Dr. Murphy backed by his giant intellect and indomitable will, his advance, in the field of his chosen branches of medical science, was most phenomenal.

In the early nineties he established a laboratory in the Columbia building on State Street in Chicago. Together with certain associates, he did chemical, bacteriological and pathological work. This adventure—new at that time—was a success from the beginning. In spite of the strenuous hours devoted to professional duties and other literary pursuits, when the famous "free silver" campaign of 1896 was inaugurated by the nomination of William Jennings Bryan at Chicago, when the nation was electrified by the "cross of gold" speech of the great commoner, he tendered his services to the democratic campaign committee of that great city. He spoke nightly thruout the campaign. So magnetic was he and so captivating and convincing were his speeches, that he was affectionately nicknamed "Democrat" by his republican friends and associates. When the writer of this sketch, spent a part of the following year (1897) in hospital work in Chicago, he was still known as "Democrat." In 1899 he began his career as a teacher of medicine in the medical department of the University of Illinois. However, he had served as demonstrator of pathology from 1891 to 1895, in this college, later becoming professor of pathology. So really he was on the teaching force of that institution from 1891 to 1908. Probably the most outstanding and far-reaching work of his career was during the years including 1907-11; for it was during these four years that he served Chicago as Commissioner of Public Health. He instituted epoch making changes in all health work. These changes can not be mentioned in so brief a sketch as this must be. Suffice it to say that his theories and methods were soon accepted and followed almost every where. From 1908 until 1925 he was professor of Sanitary Science at Northwestern University. For a great many years he has edited the "How to Keep Well" column of the Chicago Tribune. This column is, possibly the most widely read health column in the nation. He main-

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tains editorial rooms in the Tribune building and for this work he is very handsomely remunerated. On November 20th, 1907 Dr. Evans was married to Miss Ida May Wildberger, of Memphis, Tenn. She was a most brilliant woman, but unfortunately she did not live many years after her marriage. In 1910 Tulane University bestowed the degree of L. L. D. upon him and in 1911 the University of Michigan bestowed the degree of D. P. H. He is an Ex-President of the National Association of Public Health as well as of many of the other leading medical associations of the nation. He did research work in both Rome, Italy and Paris, France.

The foregoing statements barely touch the high spots, so to speak, in the career of this remarkable man. He is the most tireless worker that I have ever known. He works practically all the time—never less than twelve hours per day. And yet he seems to thrive on work. He possesses a wonderful physique—is a large man and powerful built. He has always been a great worker. He once told me that tho he lived five miles from his office, he had not ridden to or from his office in ten years, regardless of weather conditions. He indulges in frequent long distance swimming. He has written and edited many medical books and monographs. He is recognized as one of the nations great platform speakers. He speaks on a great many subjects—history, literature, political economy, governmental science at any phase of medicine and public health. Many years ago, he told me that he had spoken, by invitation, in every state in the union but two—many times in most of them. I understand that he is now engaged in the preparation of a history of Mississippi. If this is

true and he carries his undertaking to completion, I predict that more information concerning the state and its people will be found in that book than in any book ever written. You will notice that his bachelor's degree was conferred at the age of eighteen and his M. D. at a little past twenty. Exactly fifty years—busy, strenuous years—have elapsed since receiving his bachelor's degree. The amount of work done and worthwhile things accomplished during these years is almost inconceivable. And yet he does not seem tired or appear "travel stained." In fact he seems just to be catching his stride. Although most of his life has been spent in Chicago, and is in some degree, "a citizen of the world," he still remains, in sentiment and sympathy, southern to the core. Although most of his early acquaintances and boyhood friends have passed on or have been sucked under by the currents of life, Mississippi, Monroe county and Aberdeen are the green spots on life's highway to him.

Mr. Editor, I wish all your readers knew this great man as I do, and I hope they will join you in your laudable efforts to do him honor and let him know that we appreciate, admire and love him.

DR. G. S. BRYAN

Amory, Miss.

* * *

The above is a reprint of an article that was published in the September, 1933 issue of The Mississippi Doctor. I have seen Dr. Evans but once since then. I was made happy by a day's visit from him on last Armistice Day. We spent the day visiting some points of historic interest in Monroe County. Especially points that were connected with the Chick-

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asaw Indian history. There are several such points—among them is the stone marking the site of the treaty in which the Chickasaws abdicated their right in this part of Mississippi. I did not know at that time that Dr. Evans contemplated giving up his teaching and editorial work in Chicago. And after making this change and expressing the determination to return to the south, the home of his youth and young manhood, he visited Aberdeen for a brief stay. But I was not fortunate enough to contact him while there. He went from here to Mexico and is, at present, in Imurice, Sonora, Mexico. He, of course, is at work down there getting data, I am told, for some Indian history. His cousin, Mrs. Jim Evans, informs me that he plans spending the Christmas holidays with his brother in Panama. After this he will return to Mississippi and devote the remainder of his active life to writing. Most likely his writings will be of historic nature. A lady who is collaborating with him tells me that he has said he would spend much time within easy reach of the Congressional Library at Washington.

But be this as it may he is and always will be a Mississippian. He is ours and we are justly proud of him. He has shed lustre on our state and he is a positive contradiction to the statements and insinuations that such publications as "Time" are busily passing out to the public. (Pardon me for referring to these sheets that defame our state and section and yet ask for our support).

G. S. BRYAN.

Dr. W. A. Evans as a Man of Letters

MARSHALL WINGFIELD

My esteemed neighbor, Dr. G. S. Bryan, knowing that I share the admiration and affection which he holds for his life-long friend, Dr. W. A. Evans, has asked that I contribute to THE MISSISSIPPI DOCTOR an article dealing with Dr. Evans as a man of letters.

The medical fraternity in America has added richly to that small group of books which are not merely to be tasted and swallowed, but chewed and digested. They have left us heirs to the ample heritage of their noblest thoughts: they have given tongues to the silent dead. The lover of good literature recalls with pride such eminent names as Dr. John Allen Wyeth, Dr. S. Weir Mitchell, Dr. William H. Taylor, Dr. John Rathbone Oliver and a host of others of whom time would fail one to tell. Shining steadily in this galaxy of literary stars is Dr. William Augustus Evans, Master of Science, Doctor of Medicine, Doctor of Laws and lover of the American scene, especially that portion of which constitutes his native Southland.

Born in a home of culture and refinement, the son of a physician, Dr. Evans was accustomed from childhood to correct English usage. The cultured environment of his youth is reflected in all that has issued from his versatile pen. In my brief personal association with him, and in his letters which I treasure, I have never known him to speak or write a cheap word. As a constant reader of his syndicated health articles through a period of many years, I have never discovered a paragraph of which the most

exacting purist could justly complain. These syndicated writings were classified as journalistic efforts, it is true, but in a very real sense they were literature. The subject matter has not always interested me, but the form of its expression has ever won my admiration. On reading the contribution of any day, one felt that he had touched the mind of a man who knew the world as well as the laboratory. Macaulay's phrase aptly applies to Dr. Evans: "A man of the world amongst men of letters, a man of letters amongst men of the world."

With his love of American history, and with his passion for truth, he could have carved his name by the side of the names of Bancroft and Fiske, had he elected to write history instead of following the trail which made him a director of public health, an instructor of medical students and a writer of health literature.

Lack of space in this magazine admonishes me that I must no longer deal in generalities. I am also reminded that it is impossible in this article to take account of more than one of Dr. Evans' contributions to America. Therefore, I limit this article, though somewhat reluctantly, to his largest and best known volume which is a study of Mary Todd Lincoln, wife of a war-time President.

The book, MRS. ABRAHAM LINCOLN, reveals the mind of a first-class biographer and historian, as well as the mind of a man who has remarkable insight as a scientist and psychologist. The study is not based merely on an examination of Mrs. Lincoln under the high lights of history. It is rather an investigation of her private and public behavior in the light of modern psychology. Dr. Evans takes account of her an-

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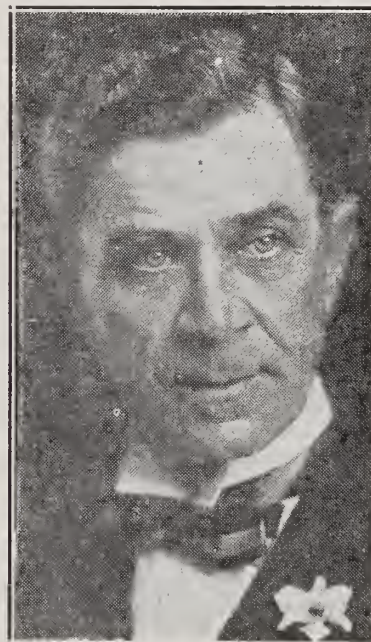
cestry, early training, marriage, and domestic life in Springfield and Washington. He appraises carefully and interprets scientifically the background and significance of her rather notorious ventures into finance, politics and spiritualism. He exhausted a vast collection of books, old newspapers, court records and other documents in making his study. He interviewed Mrs. Lincoln's family and consulted an eminent group of physicians who specialize in mental disorders, and he showed special interest in such medical records as were in possession of the sanatorium which cared for Mrs. Lincoln in her mental illness. The result is a volume so exhaustive from every viewpoint that the reader sees through most of the dark shadows which have hitherto surrounded her tragic life. In brief, his book enables one to understand something of her strange and complex personality.

While writing the HISTORY OF CAROLINE COUNTY VIRGINIA, I spent a fortnight as the guest of the noted geodesist, Dr. Jas. Bowen Baylor, in Washington, D. C. We invariably dined at Dr. Baylor's club (Metropolitan) of which Robert Todd Lincoln was also a member. He and Dr. Baylor were intimate friends and the three of us often shared a table together. Recognizing my one and only opportunity to converse with the son of "the immortal rail-splitter," and with the temerity of youth, I asked him many questions concerning his famous father. I made notes of all he said, planning all the while to write an article on Lincoln some day which would at least carry the weight of these conversations with his son. Knowing little or nothing then of the strange history of Mary Todd Lincoln, I foolishly asked Mr. Lincoln some questions about his mother. He was strangely silent, so much so that I knew, even then, that I had presumed too far. Though he is long since dead, I am still chagrined by the memory of the questions asked, for having read Dr. Evans' book I now understand Mr. Lincoln's silence.

Incidentally, one finds in Dr. Evans admirable study a clearer understanding of the mind and character of Abraham Lincoln who lived with this complex woman during the most important period of his life. The influence of each upon the other is sanely evaluated, and one lays the book aside with feeling that neither of the twain can be understood apart from the other. One also closes the book with the conviction that there are other puzzling personalities in American history who would be better understood if this versatile physician had devoted the fine powers of his mind wholly to the world of letters.



Dr. Felix J. Underwood, Executive Secretary of the State Board of Health of Mississippi. He hails from the same county as does Dr. Evans. We are under obligations to him for much of the material about Dr. Evans in this issue.



Dr. R. C. Bunting, chairman of the program committee for the Mid-South Post Graduate Medical Assembly. For seven or eight years or longer Dr. Bunting has been chairman of the program committee and much credit for the growth and development of the Mid-South has been due to his persistent efforts year in and year out. He thinks we have one of the strongest array of essayists thus far that we have ever had for a meeting.

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The Mississippi State Hospital Association

LEON S. LIPPINCOTT, M.D., Editor—Vicksburg
Kate Lou Lord, R.N., Associate Editor—Hattiesburg

At the last annual meeting of the Mississippi State Hospital Association at Natchez in May, Dr. W. H. Anderson, chairman of the committee on publication, as editor and business manager of "The Mississippi Doctor," very generously offered to the Association two pages monthly for its use. The offer was accepted with gratitude and the president of the Association for this year, Dr. V. B. Philpot, has appointed an editor and associate editor to fill those pages. This is their first effort.

May we at the outset ask the thoughtful consideration and help and suggestions of all members of the State Hospital Association. It is our belief that these pages may be made of great value to the Association as a medium of general information of Association activities and especially for the exchange and discussion of ideas.

"The objects of this Association shall be to promote the welfare of the people of Mississippi by the furthering of efficiency and economy in the institution, care and management of hospitals and dispensaries of the state; to improve the service rendered to patients by such institutions; to secure the cooperation of other organizations with similar objects with a view to coordination of effort; and in all ways to advance the interests of all medical service institutions."

Will you help us to further those objects in the space devoted to our Association?

Dr. Anderson will give additional space for cuts and stories of our Mississippi hospitals. He can use one each month. If you are proud of your hospital, send a cut and particulars about its history, equipment, the work being done and other interesting facts to the editor as soon as possible.

QUESTIONS FOR DISCUSSION

It is now planned to publish a question for discussion each month. If each hospital executive will send in his answer, we shall have a cross-section which will be most valuable. The question for this month:

"What action should be taken when members of the medical staff persistently refuse to obey the rules and regulations such as writing clinical records, attending clinical conferences, observance of quarantine, aseptic technique rules, etc.?"—(From 100 Questions and Answers, by Robert Jolly, Hospital Management, Vol. XXXV No. 4.)

Your editors are counting on you. Address all communications to Leon S. Lippincott, M. D., Vicksburg, Miss.

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Members of The Standing Committees of the Mississippi State Hospital Association:

Gentlemen:

I am enclosing herewith committee appointments for the Mississippi State Hospital Association. I am sorry there has been some delay in getting these appointments, but the delay has been unavoidable.

You are aware of the fact that the Mississippi State Hospital Association has become a very active organization. The continued success of this organization depends on the activity of its members, and especially the standing committees. I would appreciate it very much if the members of the various committees would signify their willingness to serve on these committees by notifying either Dr. Lippincott or myself. I am exceedingly anxious that the committees will be active and function to the best interest of the organization. Be ready with a detailed report of your activities at the next annual meeting.

The first Committee on the list is that of COMMUNITY HOSPITALS, of which Dr. J. R. Hill, Corinth, is chairman. The sphere of this committee in the past has not only been to promote efficiency and to look after the interest of the community hospitals as far as possible, but to cooperate with the Committee on Community Hospital Legislation from the Mississippi State Medical Association effecting state appropriations to the community hospitals, which, according to our program, means practically all hospitals in Mississippi.

The Committee on LEGISLATION, of which Dr. Felix J. Underwood, Jackson, is Chairman, has to do with general legislation effecting hospitals in the state, such as a workmen's compensation, the tax situations, etc.

The Committee on CHARITY HOSPITALS, headed by Dr. G. Lamar Arrington, Matty Hersee Hospital, Meridian, will function in behalf of the Charity Hospitals of the State, and will naturally present to the Association the work of the five charity hospitals in the state, and make recommendations as to their future.

The Committee on INSANE HOSPITALS, of which Dr. J. M. Acker, Jr., Mississippi State Hospital, Jackson, is Chairman, will, of course, present to the As-

THOMAS D. MOORE, M.D.
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sociation the work of the two insane hospitals in the state. The large insane hospital at Jackson will be completed in a few months, and is supposed to be one of the largest and best equipped insane hospitals in the world. The report of this committee will, of course, be interesting.

The Committee on MEMBERSHIP, headed by Dr. E. Leroy Wilkins, Clarksdale Hospital, Clarksdale, will have to do with securing eligible members for the organization, and is, indeed, a very important committee. I would suggest that the chairman of this committee get a list of all hospitals who are members of the Association, as well as those who are not members and are eligible to become members, and assist in securing a 100% membership in the Association.

The Committee on PUBLIC RELATIONS, headed by Dr. E. C. Parker, King's Daughters' Hospital, Gulfport, will make every effort to secure a favorable and sympathetic consideration with the public in reference to the organization.

The committee on MINIMUM STANDARDS, headed by Dr. W. Jeff Anderson, Anderson Infirmary, Meridian, is also a very important committee, and has to do with standardizing the hospitals in Mississippi in keeping with the minimum standards adopted by the Association at its last meeting, or making further recommendations in regard to standards.

The Committee on NURSES AND NURSING, headed by Dr. A. Street, Vicksburg Sanitarium, Vicksburg, will report to the Association data regarding nurses and nursing, and will seek to secure the most efficient cooperation from the nursing profession with the hospital organization.

The Committee on CONSTITUTION AND BY-LAWS, headed by Dr. W. H. Frizell, Kings' Daughters' Hospital, Brookhaven, I hope will study the By-Laws of the organization and will recommend any changes necessary in this regard.

The Committee on PUBLICATION, headed by Dr. Leon S. Lippincott, Vicksburg Sanitarium, Vicksburg, will keep before our organization and the medical profession doings of the State Hospital Association, and will write monthly articles to the Mississippi Doctor in reference to our work.

Assuring you of my ever readiness to be of any assistance possible for the benefit of the hospitals of Mississippi and the Association, I am

Yours very truly,

V. B. PHILPOT, M.D., President.

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Dr. H. A. Gamble: Legislation, Community Hospitals, Public Relations, Membership.

Dr. Leon S. Lippincott: Publication.

Dr. J. Gould Gardner: Community Hospitals, Minimum Standards, Insane Hospitals.

Dr. R. J. Field: Charity Hospitals, Nurses and

Nursing, Constitution and By-Laws.

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Natchez Hospital, Natchez
Natchez Sanatorium, Natchez
New Albany Hospital, New Albany
Newton Infirmary, Newton
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President's Address

HOSPITAL STANDARDIZATION*

Richard J. Field, M.D., Field Memorial Hospital
 Centreville, Miss.

One year ago the chairman of the Committee on Minimum Standards presented the report of the committee within which it was recommended that all who constitute our state membership accept the minimum standard of the American College of Surgeons. This report created quite a discussion and was finally referred to the Board of Directors with the power to act and to present a report at the next meeting.

The Board of Directors, after carefully considering the matter, passed it on to the Committee on Minimum Standards with certain recommendations.

*Presented at the Fifth Annual Session of the Mississippi State Hospital Association, Natchez, May 7, 1934.

The details of the report will be heard later when presented by our chairman, Dr. W. Jeff Anderson.

It is not my idea in this writing to object or even criticize what might be the recommendations of the committee, but knowing the needs of most of our state institutions I wish to offer a few suggestions that will unquestionably insure higher standards of medical service in Mississippi, the substance of which, however, equals no less than the minimum standards of the college.

It has been said that the adoption of such a standard as requirement for membership into our Association would eliminate practically half our hospitals. If this be true it will no doubt be more practical to adopt some less exacting plan that can be honestly lived up to. However, we should not be satisfied until the maximum points of safety and efficiency have been obtained.

The object of our Association is to promote the welfare of the people of Mississippi by the furthering of efficiency and economy in the institution, care and management of hospitals, and to improve the service rendered to patients by such institutions. Certainly the Association has every reason to prescribe regulations that will guarantee the best standards of medical and surgical practice. Such standards aim primarily toward maintaining the proper environment for the doctor and his associates, and promote better hospitalization in all of its phases. This affords the patient the greatest benefits that medical science can offer, which is the inherited right of every man,

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It is necessary that we think of and respect the smaller hospitals for it is from this group that we enlist the greater portion of our membership. They are filling a most important place in the rural communities, and in most instances only minor adjustments need be made to establish a place on the enviable approved list.

The factors necessary in hospital efficiency are three in number, and any one of them would be hard to eliminate: (1) an organized, competent professional staff; (2) accurate records; and (3) adequate diagnostic and therapeutic facilities. There is no reason why, regardless of its size, the small hospital cannot have a medical staff, staff conferences, and records without much difficulty. In a small group interesting discussions may appear difficult at first but if the technicians and even the nursing staff be included, interest will improve with them. We have found that a small luncheon stimulates a better attendance, and surely the cost of such to the hospital is fully repaid. At times the doctors' wives are invited and the program regardless of the subjects to be discussed are both interesting and educational to all.

More difficulty, however, may be experienced in providing complete laboratory and x-ray services. It is only required that the clinical laboratory be equipped to do routine tests to assist the clinician to make or confirm his diagnoses. All of the hospitals have x-ray equipment, if no other than the portable unit for emergency work. The more detailed tests requiring pathological examinations have caused quite a worry with the small hospitals, but this can be handled with very little inconvenience by mailing the tissues to the nearest pathologist. The cost has been complained of but a flat laboratory rate sufficient to include this analysis is rarely ever objectionable to the patient. Just a word of explanation as to "why the change" is sufficient. It is surprising how many people will ask that this be done.

It is very desirable and most helpful to the small hospital to employ a competent technician. One can easily handle both the clinical laboratory and the x-ray service, it being understood that a member of the medical staff who has had some training in this work oversee the activities of each department.

The standardization of the hospitals of America under the leadership of the American College of Surgeons has been said to be one of the outstanding achievements of the first quarter of this century. This is unquestionably true and I wonder if the hospitals of Mississippi have made sufficient effort to share the benefits. Some have complained because of non-approval and really object to further inspection. Is this the proper attitude or should more sincere thought be given toward overcoming the little difficulty in maintaining the requirements? The college has clearly stated that any hospital desirous of doing so will have the fullest interest, sympathy and cooperation.

The question no doubt will be asked, after all this apparent extra work has been done, what real good comes from it. I wish to list briefly a few accomplishments:

First, Benefits to the patient: The focusing or more attention on the patient by the hospital author-

ities and other directly sharing in the work has brought about quite a transformation in hospital service. There has been through standardization a definite lowering of mortalities and morbidities and a shortening of the average days' stay of patients. In the leading hospitals the average stay has been decreased twenty-five to fifty per cent, and the mortalities following major surgical procedures have dropped from eighteen to three per cent. The path of illness must then be made safer and more comfortable for the patient by the provision of modern physical plants with adequate facilities for diagnosis and treatment.

Second, Benefits to Doctors: A better working environment is created for the doctor, the nurse and others concerned in rendering service to the patient and affords every advantage in diagnosis and therapy. A reservoir so to speak is provided through which he can continually add to this scientific knowledge. The doctor's education is never finished and a standardized hospital certainly offers daily opportunity to add to the facts about so intricate a science as modern medicine. Through such an opportunity for continuous advancement the doctor will be better equipped to care for the patient whether in the office, home or hospital.

Third, Benefits to Training Schools: The student nurse taking her training in a standardized hospital will complete the course better qualified and with better ideas and ideals than if she had received this training in a hospital of a lower standard. There is no reason why the proper care of the patient and the education of the nurse cannot go hand in hand. Good nursing service is essential in every hospital, and the better the organization the better will be her preparation. The standardized hospital should have a properly organized nursing department under competent supervision of a corps of graduate nurses, or, in the case of the small hospital with a training school, at least one graduate nurse. In the small hospital, if sincere interest be shown, the medical staff can provide the very best of instruction. In some places the druggist adds greatly to the teaching staff with his knowledge of chemistry and materia medica. If due care be exercised in the selection of girls for the training school and proper interest be shown them in teaching and in providing comfortable living and working quarters, the size of the hospital, if standardized, need not hinder the development of a real competent nurse for the care of any sick. Every girl having a desire to enter training should select a standardized institution.

Fourth, Benefits to Community: People are becoming better educated daily, and a noticeably increasing confidence is being shown in hospitals that are known to be functioning in accordance with universally recognized standards. The day is close at hand when the intelligent or better class of people will consent to be treated only in an approved hospital. The small hospital particularly must exercise

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every effort to increase the service and add to the facilities for diagnosis and treatment. The prestige will be very bad if the desirable class of people of the community begin going to the larger hospitals of the city, which, after all, with good roads are not far distant. It is nothing but right that they should demand the best and unless provided it will be sought elsewhere.

Fifth, Benefits to Scientific Medicine: The keeping of accurate records from the bedside of the patient, laboratory, x-ray department and all other assembled data offers the standardized hospital an excellent opportunity to promote scientific medicine. Every hospital should share in clinical research and the results should be reported in the literature.

The above are only a few of the advantages to be gained by joining the standardization movement. The possibilities are unlimited, the hospital is stimulated to greater activities, and we have before us at all times an ideal of a larger service.

Our Mississippi State Hospital Association is still in its infancy and we should not create any hardships on any of our hospitals, but we should prescribe such regulations as will help all members help themselves.

REPORT OF THE BOARD OF DIRECTORS*

Your association continues to show increased activity. In these days of codes of fair practice and

*Presented by V. B. Philpot, M.D., vice-president, at the Fifth Annual Session of the Mississippi State Hospital Association, Natchez, May 7, 1934.

collective bargaining, we believe our hospitals of Mississippi are realizing the desirability and even necessity of a strong cooperative organization.

We are pleased to report that membership in the association has again increased during the past year. We now have 50 institutional active members in good standing, seven personal active members, one associate personal member and one honorary member. There are still a few hospitals of the state that should be members. An intensive drive should be made to enroll more personal members. Such members, including trustees, superintendents, assistant superintendents and members of medical staffs of hospitals and executive officers of organizations for the development of hospitals would do much to interest people in general in hospitals and to lead them to understand their purposes and needs. A hundred such members is not too much to expect.

Active contact has been maintained with the Mississippi State Medical Association and the two associations have worked jointly for the passage of a community hospital law and a lien law for protection in the handling of automobile accident cases. While everything desired was not accomplished, it is believed that an impression has been made and that both laws can still become a fact.

The transactions of the 1933 meeting were effectively compiled and printed and distributed to every hospital in the state. Numbers of items have appeared in the New Orleans Medical and Surgical Journal for the information of our members.

Friendly relations have been maintained with

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the American Hospital Association and with a number of State Hospital Associations whose work is similar to ours. The joint meeting today with the hospital associations of Louisiana and Tennessee is for an exchange of ideas on problems common to our southern states.

National Hospital Day was observed last May. It is believed that a more general observation of this day in common with other states and with Canada would do much to acquaint the public with our hospitals to their real betterment.

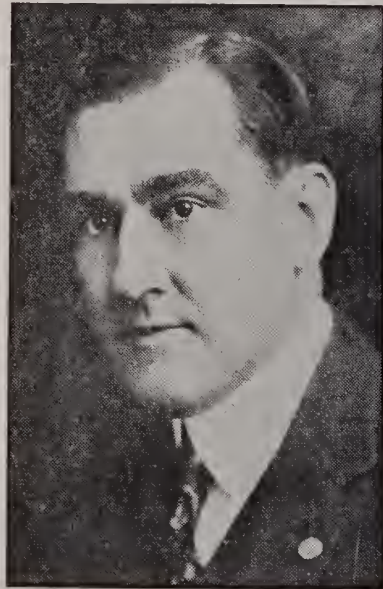
At the last session of this Association the question of a minimum standard was brought before this organization and referred to the Board of Directors, but since we have a committee on minimum standards with Dr. W. Jeff Anderson of Meridian as chairman, this problem was referred to this committee with certain recommendations from us, and this committee will report on this subject later on in the session.

The treasurer will tell you that after assuming a considerable expense for the promotion of legislation and acting as host for the other neighboring hospital associations today, a balanced operating budget has been maintained.

Your Board of Directors wishes to encourage and strongly recommend that the closest relations be invited and maintained with the Mississippi State Medical Association. The problems of the state medical association are our problems. We would like to have our problems considered kindly by the medical pro-

fession. We need them and they need us. The medical groups are strongly interested in the services rendered by hospitals and only through kindly and reciprocal relations can problems common to both be solved and the health and happiness of our people be best preserved.

R. J. Field, M.D.
V. B. Philpot, M.D.
Leon S. Lippincott, M.D.
J. Gould Gardner, M.D.
G. D. Stanley



This is Dr. A. F. Cooper, Secretary of the Mid-South Post Graduate Medical Assembly. He attended the September session of the North East Mississippi 13 County Medical Society at Houlika on the 12th. He was very enthusiastic about the meeting of the Mid-South in February. Dr. Cooper is a natural born secretary. He knows all the fine points. No association in the United States has a better secretary than the Mid-South. His work is greatly appreciated.

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North - East Mississippi Hospital



In 1916 a two story brick building, consisting of four rooms, two below and two above, situated north-east of the court house, and which had been built and used for a jail at least 45 years before, was purchased for a small sum and, by the addition on the northwest of eight more rooms, four below and four above, this building was arranged, overhauled, steam heated in a provided basement and equipped to be used as a hospital.

All the arrangements and equipment in general were rather crude, but was used in this way for three years or more when a second addition was added similar to the first on the opposite side, which added eight more rooms.

In about five years longer there was need for more room, especially as a charity fund had been furnished by the state, so on the southeast side a third addition was placed consisting of two large wards below for colored and the same sized wards above for whites. Each ward had a capacity for six beds and when filled would give room for 24 charity patients.

This was used as it was until about 1929 when the corner located at the northeast was utilized and formed into a nice large roomy dining room and kitchen below and two operating rooms with a sterilizing room between above. This gave us a 50 bed capacity hospital with two operating rooms and sterilizing room, large dining room and kitchen, a roomy back entrance, and a basement for the heating plant and for coal.

This hospital was chartered in 1919 or 1920, to be owned by a non-profit sharing stock company and to be run as a kind of community hospital, known as the Northeast Mississippi Hospital.

From the beginning in 1916 this hospital has maintained a training school for nurses. It has always been a three years school and has been a member of the State Nurses' Association since it was organized and from its incipency, and has always endeavored to conform to the regulations and rules of that institution.

Girls of most any age and education were accepted at the beginning, but as time progressed and standards for nurses and training schools were raised, this hospital always fell in line and now all training schools of the state are to accept girls for training not under twenty-one years old and who have a high school diploma. These are the age and educational qualifications only.

The doctors of the county have organized themselves into a Staff which consists of all the doctors that practice in the hospital and this Staff meets once a month with the County Medical Association. The Staff meetings have been in action for four or five years, but for the last two years have been regular in its meetings and regular in its attendance.

The hospital has a separate room for all histories of the patients of the hospital which are kept as records. It is a ruling of the hospital that all doctors that practice there keep or write up the history of their patients for the hospital records.

The largest number of patients admitted for one year was 1010 and this did not account for what is called out patients. The hospital for the last four or five years has had a stormy time in a financial way, but by practicing strict economy it has been able to weather the storm and is now in a position to travel without such extreme hardships which it necessarily had to during the years 1930 to 1934.

"Prostatic Obstruction"

I. G. DUNCAN, B.S., M.D., F.A.C.S.
Memphis, Tenn.

Types of prostatic obstructions:

- (1) Hypertrophy of lateral lobes.
- (2) Hypertrophy of median lobes.
- (3) Median bar.
- (4) Contractures of vesical neck.

(1)

Hypertrophy of lateral lobes:

- (a) Adenoma—Benign—Malignant.
- (b) Fibroma—Benign—Malignant, (sarcoma).

(2)

Median lobe due to hypoplasia of vesical gland of posterior surface of vesical neck.

(3)

Median bar due to chronic infection (fibrosis) and hypertrophy of inter-urethral muscle of Bell.

(4)

Contracture of vesical neck due to over growth of glands all around vesical neck.

(A) Local effects:

- (1) Thickening of muscle of bladder wall but later thickening of bladder wall forming cellules or even diverticula.
- (2) Effect upon ureter and kidney:
 - (a) Ureter dilated.
 - (b) Dilatation of renal pelvis.
 - (c) Atrophy of parenchyma of kidney.
 - (d) Pyelonephritis (infection).
 - (e) Interstitial nephritis.
- (3) Local effects upon seminal vesicles.

(B) Systemic effects:

- (1) Retention in the blood of waste products which should be eliminated by the kidney.
- (2) Myocardial insufficiency.
- (3) Dehydration.
- (4) Hypertension.
- (5) Urosepsis.
- (6) Kidney insufficiency.
- (7) Uremia, etc.

Symptoms

(A) Local.

(B) General.

Local:

- (1) Frequency of urination.
- (2) Nocturia.
- (3) Dysuria.
- (4) Dribbling (rubber boot stage.)
- (5) Painful urination. (Infection).
- (6) Hematuria—Primary—Secondary.
- (7) Acute retention—Exposure to cold allowing the bladder to become distended as in auto trips.

General:

- (1) Sciatica.
- (2) Backache.
- (3) Indigestion.
- (4) Biliousness.
- (5) Gaseous distension.
- (6) Myocardial insufficiency — otherwise shortness of breath. Swelling of feet.

- (7) Kidney insufficiency (low P. S. P.).
- (8) Headache, etc.
- (9) Retention of nitrogenous products. Insomnia.
- (10) Lack of concentration.
- (11) Impairment of vision.

Diagnosis

- (1) History of frequency, dysuria, nocturia, dribbling, etc.
- (2) Urinalysis—Pus, blood, etc. or may be normal.
- (3) Rectal examination.
- (4) Palpating percussing bladder suprapubically.
- (5) Residual urine present (technique).
- (6) Cystoscopic examination.
- (7) X-ray cystogram.
- (8) Nitrogenous retention N. P. N.
- (9) Kidney insufficiency P. S. P.

Differential diagnosis

- (1) Stricture of urethra.
- (2) Nerve lesion.
- (3) Tabes (Syphilis).
- (4) Nerve injuries.
- (5) Diverticulum.
- (6) Stone in bladder.
- (7) Acute prostatitis, (chills, temperature, G. C. infection.)
- (8) Pedunculated enlarged vesical neck, gland, or tumor.

Treatment

- (1) Without retention (regular habits, exercise, etc. massage, dilatation etc., alkalies, urinary antiseptics. Avoid horse back riding, long auto rides, etc.)
- (2) Acute retention.
- (3) Chronic retention.
 - (a) Acute retention (catheter with decompression. Suprapubic drainage.)
 - (b) Chronic retention (catheter or catheterization)
 - Dilatation
 - Prostatic massage
 - Alkalies with Tr. Hyoscyamus & Tr. Belladonnae.
 - Digitalis
 - P. S. P.
 - Blood chemistry
 - Urinary antiseptics (Dyes. Pyridium, Methylene Blue Pills; Urotropin).
 - Forced fluids
 - Vas ligation.

Catheter life (Patient is taught to catheterize himself with aseptic precaution several times a day. Not to be recommended).

Removal of prostate (very large).

Resection of prostate (all except very large).

Malignancy (Sarcoma. Adeno-carcinoma.)

Sarcoma occurs in boys and very young men.

Symptoms: Same as for prostatic obstruction.

DRS. O. S. McCOWN — O. S. McCOWN, JR.

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Diagnosis: Large uniform mass felt in rectum.
Biopsy of inguinal glands.

Treatment: Very unsatisfactory, suprapubic drainage with X-ray and Radium may be tried.

Adeno-carcinoma usually occurs after fifty years of age:

Symptoms: Same as for prostatic obstruction from simple adenoma.

Diagnosis: Loss of weight, especially when accompanied by sciatica and pains in back and hips.

Rectal examination: Prostate large, irregular and fixed. Hemorrhage may or may not be present.

Treatment: Resection, which should be followed by X-ray treatments.

The best results are obtained when the patient with prostatic obstruction is operated early before marked pathological changes have taken place in his heart and kidneys. While the removal of these prostatic obstructions by means of resection is still a major procedure, the operative mortality is only about 1-3 of that of prostatectomy, and the hospital expense has been greatly reduced.

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The physician who accompanies the Byrd Antarctic expedition has a two-ounce bottle of a greenish-yellow substance representing enough Vitamin C for the party for two years.

Resolution

The following resolution was presented by the Executive Committee and adopted unanimously by the American Radium Society, Cleveland Session, June 12, 1934.

WHEREAS, it has been proven that radium and x-rays, when used properly, and in sufficient quantity, is efficient in the treatment of cancer in certain locations, and

WHEREAS, there is a general fear in the public mind from x-ray or radium burns, which because of this fear, prevents competent radiologists from using sufficient radium or x-ray to produce the best results.

BE IT RESOLVED that we as radiologists recognize that in the treatment of malignant disease, it is often necessary to carry the treatment on to the extent of producing a violent reaction in the surrounding tissues, which may cause the skin to peel, and blisters to form, in order to give sufficient treatment to overcome the malignant disease. We believe, therefore, that it is justifiable to produce a second degree radiodermatitis when necessary.

Scottie—are you sure my wife's tonsils should have been taken out when she was a lassie?

Doctor—Why do you ask that?

Scottie—Well, that being the case, just send the bill to her father.

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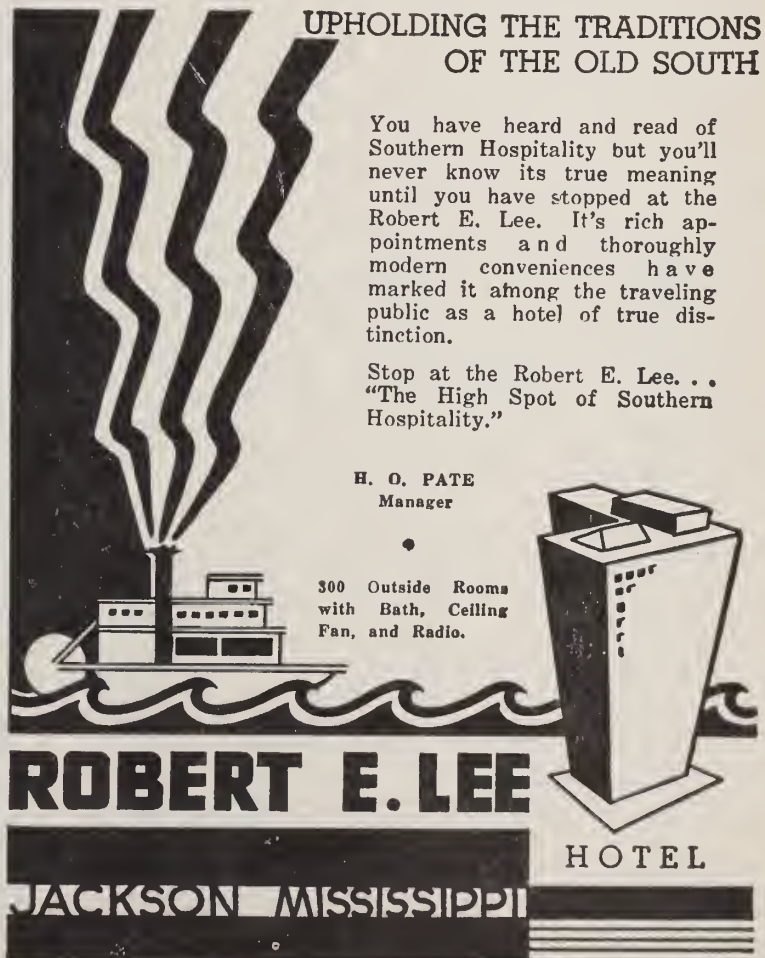
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Modern Conception of the Indications for Therapeutic Abortion*

THOMAS BENTON SELLERS, M.D., F.A.C.S.

Chief of the Department of Obstetrics and Gynecology, Southern Baptist Hospital; Assistant Professor of Gynecology, Post Graduate School of Medicine, Tulane University of Louisiana, New Orleans, Louisiana.

—And—

JOHN T. SANDERS, M.D., F.A.C.S.

Member Senior Staff, Department of Obstetrics and Gynecology, Southern Baptist Hospital; Instructor in Gynecology, Post Graduate School of Medicine, Tulane University of Louisiana, New Orleans, Louisiana.

At the recent meeting of the American Medical Association, a symposium was held on the subject of therapeutic abortion, with emphasis upon the modern conception of indication for the procedure. This subject is of particular interest to general practitioners, as they have under their care a majority of the cases of pregnancy occurring in this country.

In discussing this subject, we must keep in mind the ideal every obstetrician wishes to attain, even though we realize that conditions relating to both physician and patient may force us to modify our standard somewhat. In every case of pregnancy, a detailed history should be taken and a thorough general investigation, including various laboratory tests, should be made in addition to the usual gynecological examination. Any abnormality should be corrected promptly if possible. If medical complications are present, or if there is any doubt concerning their presence, a capable internist should be consulted at once. This is especially true of questionable nephritis, cardiac lesions and pulmonary tuberculosis. The average obstetrician is not capable of determining what course should be followed in the presence of these complications, and consultation is important in deciding whether the patient should be permitted to continue with the pregnancy as well as whether her condition will tolerate the strain of delivery. It is important also that when the complicating lesion is not of material significance, the patient should be spared the mental torture of unnecessary worry. The complicating conditions which I shall discuss are pulmonary tuberculosis, heart disease and nephritis.

PULMONARY TUBERCULOSIS. Every year thousands of tuberculous women become pregnant, and every year thousands of women of childbearing age die of tuberculosis, so it seems evident that the combination is of frequent occurrence. Pregnancy often converts a latent tuberculosis into an active condition, the danger, according to Landis, being greater in the first pregnancy than in subsequent ones. The statistics given by Hill show that among sixty-five women with tuberculosis diagnosed during pregnancy, thirteen were dead, eleven worse, five unchanged and two improved at the end of one year after de-

livery, follow-up not being completed in the remaining twenty-four cases.

In cases of tuberculosis arrested over a period of several years, therapeutic abortion is not necessarily indicated. This type of case demands, however, not only good routine obstetrical care, but also the most careful attention throughout the pregnancy and for at least one year postpartum.

Active tuberculosis is a definite contra-indication to pregnancy, and therapeutic abortion should be performed at the earliest possible date after the active condition is recognized. An exception to this is the case in which activity begins a short while before viability, when, in selected cases, it may be expedient to give palliative treatment until the fetus is viable and pregnancy can be terminated by caesarean section under local anesthesia.

CASE REPORT. Mrs. M. P. M. was referred to me June 9, 1933, when she was about five months pregnant; para three. She gave a history of losing weight and feeling tired all the time; had a chronic cough but no expectoration of phlegm, and reported afternoon temperature of from 99 to 99½. Physical examination revealed a poorly nourished, anemic female weighing about 105 pounds; there were no gross lesions in the chest, but on account of the loss of weight and the chronic cough, I felt that she should have medical care and referred her to an internist and an otolaryngologist. The internist advised x-ray of the chest, but the patient and her husband decided it was not necessary to have this done. They deserted and secured the services of another physician. I learned from her friends that she was taken to the hospital about a month later and died of acute milary tuberculosis.

CARDIAC DISEASE. Statistics show that about 18 000 women die each year as a result of disease associated with the puerperal state, and it is estimated that of these about 1000 die from cardiac complications. Inasmuch, then, as cardiac lesions take a toll of 1.8 per cent of all puerperal deaths, it behooves the profession to recognize the importance of acute diagnosis of these conditions in pregnancy. It is unjust to advise against pregnancy when the cardiac lesion is of no material importance; but it may prove fatal to permit serious conditions, such as mitral stenosis, aortic regurgitation, auricular fibrillation, auricular flutter, heart block and myocardial insufficiency, not to receive intelligent medical as well as obstetrical care.

These cardiac lesions are of sufficient importance

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*Read before the meeting of the South Mississippi Medical Society in Laurel, Miss., Sept. 13, 1934, and before the Pike County Medical Society in McComb, Miss., on July 5, 1934.

to warrant advising against pregnancy in their presence. Should the patient consult the physician after the occurrence of pregnancy, each case must be individualized. Curtis states that, "Heart lesions are a consistently narrowing indication for therapeutic abortion, the emphasis being placed upon proper management of the cardiac situation rather than abortion."

For a working basis, these cases may be divided into three groups: first, those who tolerate ordinary exercise without showing appreciable cardiac symptoms; second, those who on slight exertion show signs of cardiac depression; and third, those who are comfortable only when at absolute rest. Patients of the first group can usually be carried to the period of fetal viability without undue danger to the life of the mother; those of the second group should be observed very closely and if trouble occurs within only a few weeks of viability they can usually be treated medically, as mentioned above, and carried on to the period of viability; in patients of the third group, pregnancy should be interrupted at once. In the presence of definite cardiac disease, pregnancy should be allowed to continue only so long as there are no marked signs of heart failure.

The method of terminating pregnancy is important, and must be individualized. In the first four months, it is preferable to induce labor by packing followed by curettment under morphine and scopolamine. After the fourth month, hysterotomy and abdominal section under local anesthesia are the procedures of choice.

RENAL DISEASE. Dr. Herrick, at the A. M. A. meeting, called attention to the fact that some of the most frequent and important medical conditions in which abortion may be required are in the cardiovascular-renal field. In obstetric literature, he says, these disorders have been grouped loosely and often

erroneously as nephritis, and the importance of differentiating conditions involving the kidney primarily, and those affecting the vascular system primarily, needs emphasis in obstetrics as well as in general medicine.

A differential diagnosis between nephritis and eclampsia is often difficult, but it is essential for the proper care of the patient. Dr. Stander of New York has called our attention to this fact, stating that one of the greatest problems today in the toxemias of pregnancy is the definite recognition of nephritis. He believes that nephritis is more common than eclampsia and that the maternal mortality, both immediate and remote, is far higher than is commonly thought. His studies indicate that 40 per cent of women with chronic nephritis complicated by pregnancy die within ten years. According to his view, every patient with blood pressure over 140-90, with or without albuminuria, not diagnosed as toxemia of pregnancy, should be classed as nephritic until repeated tests have proved the contrary. He suggests that all suspicious cases be admitted to the hospital for several days' study, his routine being three distinct kidney function tests, the specimens take at fifteen minute intervals; three urea clearance tests and three creatinin excretion tests. He states that one test is not reliable and that if we depend upon only one, we are likely either to overlook certain cases of nephritis or to condemn innocent kidneys.

In early chronic nephritis, diagnosis is difficult and can often not be made until after repeated admissions to a hospital for careful kidney function tests. In these patients there is usually no nitrogenous retention and seldom evidence of retinitis, either spastic or organic. The behavior of the blood pressure and albuminuria over a long period of time gives valuable assistance in the diagnosis. Repeated kidney function tests, especially the urea clearance and

The Country Doctor

By Ann Foster Ellis

"He's a thing of the past," the Moderns say:

We'll let the Moderns have their way.
'Twas the things of the past that cleared our path
And showed us a better way
Than ever we had dreamed.

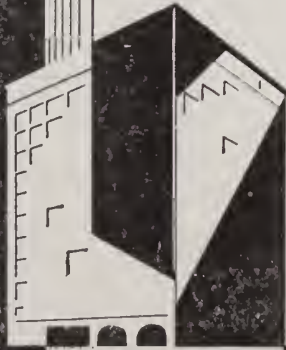
So we'll take off our hat
And we'll send him our love—
We'll thank him for this and for that;
And we'll ask for him blessings from
the Father above,
More than ever he had dreamed.

His deeds live on, in memories dear;
His patient voice we still can hear;
We know he is, of our life a part—
This Country Doctor of our heart—
Far more than we had dreamed.

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the fifteen-minute phenolsulphonephthalein tests, are of greatest value in these cases. A low kidney function test, corroborated on three or more occasions, is evidence of damaged kidneys.

In severe nephritis the diagnosis is relatively simple, based upon marked hypertension, albuminuria, nitrogenous retention in the blood, retenitis, headaches, decreased kidney function tests and slight, if any, response to dietary treatment and termination of pregnancy. In these patients there is usually a history of such infectious disease as scarlet fever, or of an earlier attack of nephritis.

Dr. Stander advocates termination of pregnancy and the prevention of future pregnancy as the best and only treatment in patients suffering from a definite and proved chronic nephritis.

The "low reserve kidney" group is the term Dr. Stander gives to a group of pregnant patients who show hypertension, though never very marked, and a slight albuminuria during the last few months of pregnancy, in whom no absolute evidence of nephritis can be elicited and who do not fall into the eclamptic group. By the end of the puerperium, the blood pressure has resumed its normal level, the urine contains no albumin, or only a faint trace, and any edema that may have been present has disappeared. At no time are there any signs of a disturbed blood chemistry, and the nitrogen-partition of the urine is normal. Pregnancy does not injure this type of kidney, and in subsequent pregnancies the patient's condition is not aggravated but is as good as, or better than, in the preceding pregnancy.

CASE REPORT. Mrs. K. P. first consulted me July 21, 1927, for pregnancy. Vaginal examination revealed a three-months' pregnancy. Blood pressure was 130-90, urine negative; kidney function test within normal limits. On September 12, blood pressure was 145-90, and the patient was admitted to the hospital. On September 2, blood pressure was 155-90, on September 30, 178-114, and on October 4, 180-100. Kidney function test on September 27 was as follows: first half hour 20; second half hour 10; third half hour 5; fourth half hour 5; total 40 per cent. On October 20, a stillborn fetus was delivered. Autopsy on the baby was essentially negative. Following delivery, the blood pressure dropped to 120-90 and the urine continued to show a trace of albumin from time to time. The patient moved to Florida and in August, 1931 became pregnant again. Blood pressure and kidney function test ran a similar course, according to reports from her doctor, and labor was induced at eight months when the blood pressure reached 180-108 in spite of diet and treatment. A normal baby was delivered and she was again advised against subsequent pregnancies. In 1933 she returned to New Orleans and reported to me for the third pregnancy. The course was similar to the two previous ones and throughout the pregnancy, the patient was under the supervision of an internist, Dr. Oscar Bethea, who placed her on a strict diet. Blood pressure at delivery was 190-110 in spite of this diet, but dropped following delivery of a normal child. On December 20, 1933, when the patient was last seen by Dr. Bethea, the blood pressure was 152-100 and pulse 84. She again left the city at that time.

POSTPARTUM CARE. In any case of pregnancy complicated by one of these medical conditions, post-

partal care should be continued until the patient has been restored as nearly as possible to her individual normal. From several months to a year or longer may be required for this.

The patients with pulmonary tuberculosis the condition should be definitely arrested before the patient is discharged. Nephritic patients should be kept under observation until they are restored to their previous normal. It is expedient that most of these patients be advised against subsequent pregnancies and intelligent contraceptive information given them.

The majority of communities today have available well-equipped specialists or have access to them through the clinical and private facilities of the cities near them. We urge that obstetricians and general practitioners freely consult medical specialists in dealing with pregnancy complicated by tuberculosis, heart disease, or nephritis, particularly in determining the wisdom of therapeutic abortion in such cases.

CONCLUSIONS

1. Every woman who has a cardiac lesion, tuberculosis or questionable nephritis should receive intelligent medical supervision as well as proper obstetrical care.

2. Active tuberculosis, certain cardiac lesions with decompensation, and advanced nephritis are definite indications for the termination of pregnancy.

3. In no case should therapeutic abortion be performed without consultation with a capable internist.

4. In the complications of pregnancy, postpartal care is indispensable and should be given for a period of at least a year. If the condition has not cleared up in that time, care should be continued until the patient is clinically cured.

5. The majority of communities today either have well-equipped specialists or have access to such specialists through the clinical and private facilities of the cities near them and should use their services freely in handling the complications of pregnancy and in determining the wisdom of therapeutic abortion.

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Woman's Auxiliary

TO THE

MISSISSIPPI STATE MEDICAL ASSOCIATION

Mrs. Dan J. Williams, Editor

Gulfport, Mississippi

TO ALL MEDICAL AUXILIARIES

October will usher in all lines of club work and I am sure no activity lies closer to the hearts of our doctors' wives than the work of their Medical Auxiliary where you are privileged the opportunity.

We have so much at stake as an organization and such opportunities to further the aims of "our men" whose counsel and cooperation we depend on entirely for work accomplished.

Where it is possible we have found that noon-time luncheons at a very nominal cost has served to bring a larger and most enthusiastic attendance. After the food is served—plates pushed back and every one relaxed and attentive is a psychological moment for the president to call to order and take up business. The friendly atmosphere of "breaking bread together" is present; the business can be discussed, any program arranged be rendered and the members free to go to any other engagement for the afternoon she chooses.

And please, members, place the importance of creating the Trust Fund for our Preventorium first among your list of philanthropic endeavors. Let's never for-

get a minute that those tots at Sanatorium are dependent on you and me for the many, many things they love and need in daily life.

Let each of us keep constantly in mind also that we are organized to promote and maintain harmony among doctors and their families. A rare privilege I say.

It looks as tho the coming winter will be as trying as the last several have been to "our men" and again it's up to us to shoulder our share of the disappointments and long hours with poor pay.

Very little auxiliary news is available at this time but I earnestly request that every auxiliary president appoint an up and coming reporter and send to me a report of your meetings very soon after meeting. It may inspire others to organize and suggest activities to those already organized. We are fortunate in having the "Mississippi Doctor" as a medium of broadcasting our aims and activities.

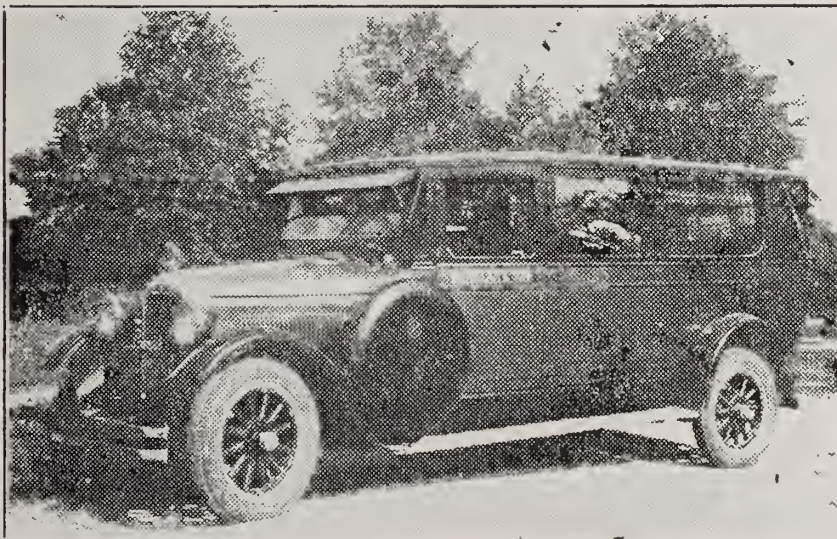
DR. E. C. PARKER OUT AGAIN

We are glad to report that our State President Dr. E. C. Parker is again able to be out in his car some every day with his faithful little wife as chauffeur and also in capacity of nurse—as he was too ill to allow him much leaveway. Dr. Parker was stricken with dengue fever several weeks ago.

There is already some activity among the doctors in making plans for the meeting of the State Medical Association and Auxiliary which will be held in Biloxi in the spring. We hope for a record attendance.

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Treatment of Asthma*

OSCAR W. BETHEA, M.D.

Professor of Clinical Medicine, Tulane University
New Orleans, La.

There is still much for us to learn about the treatment of asthma. Medical science has made notable advances in recent years, but we are yet in the position where, though frank pessimism is inexcusable, we are not justified in expecting, much less promising, uniformly favorable results. Some cases are cured, others relieved to a varying degree, and not a few show no appreciable benefit.

Treatment may be divided into:

1. Relief of the acute attack.
2. Empirical treatment.
3. Specific treatment.

RELIEF OF THE ACUTE ATTACK

The chronic asthmatic often knows of some simple measure that will be of benefit in his particular case. These are usually more effective if employed early in the seizure. Among such remedies are:

A carbonated beverage to induce belching.

A cup of strong, hot coffee.

A teaspoonful of aromatic spirit of ammonia.

The use of smelling salts.

Any of these may be tried with perfect safety.

There are various drugs that have been used and practically discarded that may occasionally give a measure of relief.

ACETYSALICYLIC ACID, if used early in an attack, and when the tolerance of the patient is known, may be of benefit. It should never be employed under other conditions.

ETHYL CARBAMATE still has some advocates.

BENZYL BENZOATE rarely may act like magic for one or two doses.

NITROGLYCERIN probably gives relief only in the asthmatic type of circulatory dyspnea.

EPINEPHRINE (originally introduced as adrenalin) is our most efficient remedy. It is used exclusively as the 1 to 1,000 solution. This may now be obtained in sterile ampules and these should be employed exclusively. The solution should be perfectly clear, free from color or any trace of sediment. It may be administered hypodermically or intramuscularly—never intravenously for asthma. A recent development in technic is the minim method. The needle is inserted and allowed to remain in place, and the solution injected a minim each minute till results have been obtained. This prevents the possibility of giving more than is necessary for relief. The tendency is to give too large a dose, thus making unnecessary demands upon the circulatory apparatus, increasing the possibility of cardiac failure in the future and causing unnecessary discomfort at the time. The smallest dose that will give respiratory relief is the largest dose that should be employed.

Tragic results from epinephrine are rare, but some discomfort is common. The patient or his family should be advised in advance of the possibility of tremor, palpitation, and blanching of the face. I

now make it a rule to stay with the patient for fifteen minutes after injection of epinephrine. I was taught to do this by some unpleasant experiences in my earlier years of practice.

Epinephrine should be employed with caution, if at all, for patients with grossly diseased hearts or marked hypertension, and for infants. I rarely permit the patient or his family to administer epinephrine. They tend to use it too often and in too large a dosage, and I have frequently seen arrhythmia and decompensation result. One reason for this is that the drug, if frequently used, may become inefficient for respiratory relief although still acting as a circulatory excitant. A few days of rest usually re-establishes its efficiency.

PITUITARY SOLUTION, while unsatisfactory when used alone, seems at times to act favorably as a synergist to epinephrine. A proprietary product representing this mixture is on the market and is largely employed.

EPHEDRINE in the form of the sulphate or hydrochloride is extensively used. I have found it less certain and less efficient than epinephrine. It is a powerful circulatory stimulant, and the ease with which it can be obtained and used has resulted in many instances of unfortunate end-results.

MORPHINE, especially when combined with ATROPINE, has a distinct field of usefulness. It can be employed to tide over an adrenalin-fast case till that agent is again effective. Morphine is also of particular value where the patient has a damaged heart, for one in a state of marked excitement, and when the patient is exhausted from lack of rest and sleep. The danger of habit must be kept in mind, also, unless the tolerance of the patient is known, only a small dose should be used at first.

EMPIRICAL TREATMENT

There are a few remedies that have come down to us from previous generations of doctors and some newer ones that are used today although they are without definite pharmacologic background.

IODIDES. The potassium salt is the one of common choice for the treatment of asthma. I have felt that the iodides were of benefit principally in the bacterial type of the disease, especially in those cases associated with bronchiectasis and chronic bronchitis. Unless the tolerance of the patient is known, it is better to begin with a small dose and gradually to increase it until favorable results are obtained, toxic symptoms develop or the inefficacy of the remedy has been demonstrated. I usually begin with 5 grains three times a day and rarely go above a total of 60 grains daily. When the asthmatic seizures are at night, the principal or only dose may be taken at bedtime. Some find it of advantage to take small doses under ordinary circumstances, but under conditions that experience has taught them may result in an attack (as sudden changes in weather) they increase the dose. Some are able even to ward off an attack

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*Read at the 76th Annual Meeting Kansas State Medical Society, Wichita, Kansas, May 8-11, 1934.

by taking a large dose of an iodide when they feel the first premonitory symptoms.

ANTERIOR PITUITARY SUBSTANCE. This has seemed to me to be of value in many cases. A few years ago, through the courtesy of Parke, Davis and Company, I carried out a rather extensive experiment in the use of this drug. In this I had the cooperation of Rackmann, Duke, Balyeat, Gay and others. The consensus of opinion was unfavorable, or rather results seemed to indicate that the value of the remedy had not been established. I still feel that we may possibly find some particular type of case for which it will be of benefit. The average dose is 10 grains in enteric-coated tablets, three times a day.

KETOGENIC Diet. This is being advocated for the treatment of asthma as well as for various other conditions. It is still in the experimental stage.

SPECIFIC TREATMENT

For this type of therapy asthma may be divided into three groups:

1. Respiratory.
2. Alimentary.
3. Bacterial.

RESPIRATORY GROUP. We have here to deal with the pollen of plants, emanations of animals, house-dust, toilet preparations, and many other factors that cause trouble by being inspired into the air passages.

The patient may be removed from the offending material. While this may seem to acknowledge defeat, at times it is the only recourse left. In seeking relief by a change of residence, it is always best to first try out the new location, as it may not meet the requirements. Because the Jones went there and obtained relief is no reason why others may be so fortunate. Very often an individual can obtain all the change necessary merely by moving from one part of town to another. This is particularly true where he is sensitive to the emanations of animals or to some other local factor.

The offending material may be removed from the patient. Where the specific pollen is not wind-borne to a great distance or, if so carried, is not in sufficient concentration, an individual or neighborhood may rid themselves of such material. Many feel that this applies to such plans as ligustrum.

When the individual is sensitive to feathers or to the emanations from some pet the disturbing object may be removed. The old family horse may be sold and a flivver purchased. A favorite face powder may be changed. Dusting may be replaced by the use of an oiled cloth. Sweeping may be done with a vacuum-cleaner. In the kitchen the use of flour may be discontinued and the bakery patronized.

Some interesting work is being done in the way of treating the air that is admitted to the home, this is, however, still in the experimental stage and naturally has a limited application.

RESENSITIZATION is the ideal plan, particularly where the material is one from which the avoidance of contact cannot be perfect. This applies especially to pollens and more especially to those that are universally common, as the grasses, or to those that are fairly common and carried long distances, as the ragweeds.

It is probable that the lack of success in treatment is usually the result of fault in the use of the

desensitizing material.

1. The wrong pollens are employed.
2. All of the offending pollens are not included.
3. Proper dosage is not used.
4. Treatment is not carried out with sufficient persistence.

I believe that one serious fault is that of treating all types of cases with the graduated stock doses put out by the manufacturing houses. It is best to purchase the material needed in bulk. When the number of treatments is not large, the physician may secure the 5cc. rubber-cap bottles, each containing 100,000 units. From this he can make up his own stock solutions, enough to last a few days at a time, and individualize in his dosage, spacing the intervals and adjusting the size of the dosage by the apparent requirements of the particular case. I usually begin with 25 units and, depending upon the effect, rapidly increase until within 6 or 8 doses I am giving 1,000 or more units. I agree with Grafton Brown that it is seldom necessary to give very large doses. In regard to the intervals between doses. If we are building up the resistance of the patient before an anticipated attack pollen may be given once or twice a week. During an attack the frequency of doses may be regulated by the effect of treatment. If the patient is benefitted, we should be guided entirely by the duration of the benefit, which averages, however, about two or three days.

These concentrated solutions are often preserved in glycerin and may cause considerable local discomfort. When this is complained of, it is well to draw into the syringe first the pollen solution, then 1 cc. of 2 per cent procaine. Without agitating, this is injected so that the procaine solution enters first.

After the pollen period, desensitization should be maintained by injections once or twice a month the year round.

While the determination of the offending pollen is an interesting subject, it is not within the scope of this discussion.

As suggested in a preceding paragraph, it is seldom advisable to try to desensitize a patient to any material, contact with which can be prevented. Occasionally, however, we find a case where it is necessary. I recently attended a jockey who was commanding a handsome wage, knew no other business, and was sensitive to the dander of horses and to the pollen of some of the common grasses. Here there was no choice as to what to do. The same necessity may obtain where one is sensitive to feathers.

ALIMENTARY GROUP. Food not only may play a direct role in causing an allergic reaction, but present opinion is that it may lower the threshold of sensitivity to the point where other offending material, such as pollen, may produce specific effects.

The range of food variety is so extensive that I have not found it advisable to try desensitization. When the offending item or items have been determined by skin-tests, by the analysis of the case his-

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tory or of a food diary, or by therapeutic test, I omit them from the patient's diet. lows:

The principal sources of error here are:

1. We do not omit all of the foods that are etiological factors.
2. We do not make their exclusion complete.

To impress this latter consideration upon my patients, I have often recited the story of Mohammed and alcoholic beverages. It seems that Abu Bekr once said, "Oh, Prophet, you have told us not to drink wine like the Christian dogs around us, now set us a limit." Mohammed replied, "If you dig a well seventy feet deep, put one drop of wine at the bottom, fill the well so that grass grows over the top of it, and a flock of seventy sheep should come that way and one of the sheep eat of the grass growing over the top of the Well, you must not eat the flesh of any of that flock."

In the course of years one may lose his sensitiveness to a particular food, but its addition to the dietary must be carefully planned and supervised.

BACTERIAL GROUP. No matter what may have been the original cause of the asthma, if the condition persists a fertile field for the propagation of bacteria is created, and sooner or later they become a factor in the majority of cases.

This is the type of asthma that we usually find resulting from or associated with chronic sinusitis, chronic tonsillitis, chronic bronchitis, bronchiectasis, and other chronic diseases of the respiratory tract. Every effort should be made to remove the foci of infection and to bring the patient generally to the best possible state of well-being. The best results in treatment are usually obtained by bringing to bear a combination of therapeutic procedures.

IODIDES. As previously stated, it is here that the iodides have their particular field of usefulness. They should be given in sufficient dosage and their use continued for a sufficient length of time.

IODINIZED OIL. This has been one of the most valuable additions in recent years to the specific therapy of this type of asthma. My employment of this agent has been somewhat as follows:

The first instillation of 20 cc. of lipiodol is made in the X-ray room. Half of the dose is instilled with the patient reclining well to the right, the other half with the patient reclining well to the left, the other half with the patient reclining well to the left. A fluoroscopic study and x-ray film are then made.

After this instillations are made at weekly intervals, each time a dose of 20 cc. being introduced into the larynx, with the patient inclined well to one side. The sides are alternated at these weekly treatments. Usually four to ten such treatments meet the requirements; later it may be necessary to repeat with a smaller number of doses.

As the technique of these administrations vary, it may be of some interest to go into detail:

I use a 20 cc. luer syringe and a large curved cannula. The cannula is used merely to carry the material over the base of the tongue and the tip should be kept in sight throughout the process. The oil is used at a little more than body temperature. Some patients will take the entire amount without the use of a local anaesthetic and with no inconvenience whatsoever, but the usual preparation is as fol-

No food or drink is taken by mouth for a sufficient period before the treatment for the stomach to be empty. The throat is sprayed with 2 per cent procaine solution or with 1.5 per cent cocaine. The anterior pillars of the fauces are painted with 10 per cent cocaine solution. The patient is placed with the body inclined to one side at an angle of about 45 degrees. The head is held straight as though the patient were facing us sitting upright. The physician should hold the tongue with sterile gauze using the thumb and index finger of one hand and placing the little finger of that hand on the thyroid cartilage in order to detect swallowing. The tip of the cannula is carried well back over the base of the tongue and the instillation started. The patient has been warned against swallowing, gagging, coughing or clearing the throat. In some cases it is necessary to stop from time to time to permit the patient to expectorate mucus and to swallow voluntarily. The patient is instructed to avoid coughing for at least thirty minutes after the treatment. When gagging interferes, benefit may be obtained by the use of a large dose of bromide some hours before. At times I have had to resort to a hypodermic of morphine and atropine shortly before treatment. The same plan may apply to excessive coughing. "Conversational anaesthesia" is a powerful synergist to other measures. In cases of the bronchial group, particularly in bronchiectasis, it is of additional advantage to empty the bronchial tree as thoroughly as possible by posture and voluntary coughing before attempting the instillation.

Before using the remedy it is advisable to test the patient for idiosyncrasy to iodides unless his tolerance is known.

I find that all that most patients need after a few treatments is to have them come with an empty stomach, after having emptied the bronchial tree by posture and coughing and to use a light spray to the larynx to lessen the tendency to cough during the instillation.

VACCINES. Theoretically at least, the autogenous vaccine is the most desirable. This should be made up in a strength of about two billion to the cc. It may be administered every three days. A usually satisfactory range of doses is 2½, 5, 7½, 10, 15 minims, the latter dose to be continued once or twice a week for several months.

I have also used the "serobacterin influenza mixed" in doses of the same size. When one type of vaccine does not seem to give results, another may be tried. In using the autogenous preparations, the patient may be sent to a different laboratory for a new culture to be prepared.

NEOARSPHENAMINE sometimes gives relief, particularly when there is bronchiectasis. It may be given in doses of 0.2 Gm. every five to seven days for five to ten doses.

If all other measures fail these patients with the bacterial type of asthma may often obtain relief by going to a high, dry climate.

Group hospital insurance will work all right if the well will be satisfied to stay at home.

The Alcorn Medical Society

GILBERT HEADS ALCORN DOCTORS

Twelve members were present at the September meeting of the Alcorn County Medical Society which was held in the club rooms of the Waldron Hotel 7:00 p. m. on the 20th. At the election of new officers Dr. C. F. Gilbert was elected president and replaces Dr. J. R. Hill, president-elect of the Mississippi State Medical Association. Other officers elected were Dr. D. W. Hamrick, vice-president, and Dr. A. D. Hurt, secretary-treasurer.

The scientific session followed a tasty dinner and included three case reports with discussions: Functional Uterine Bleeding by Dr. Bernard Patrick; Osteomyelitis of the Femur by Dr. M. W. Robertson; Noma (Gangrenous Stomatitis) by Dr. S. L. Stephenson.

During the business session it was brought out that the local trustees of the State Charity Fund for hospital patients had refused to allow hospital expenses for major operative cases for which the surgeon received the FERA allowance of \$25.00. The trustees ruled that the doctor receives pay for these cases and therefore such cases aren't eligible to receive a part of the Charity Hospital Fund. A committee composed of Dr. J. R. Hill, Dr. C. F. Gilbert, and Dr. M. H. McRae was appointed to meet with the trustees of the State Charity Fund and explain that the doctor receives no pay from the patient, that the FERA will not pay the hospital expense, and therefore such cases are eligible to receive aid from the State Charity Fund.

The Alcorn County Medical Society, which might, more properly, be called a Physicians' Club, completed a year of operation with the last meeting and has proven very profitable to the members. It operates without a charter from the State Association and does not want one. Up until twelve months ago, years had elapsed since a separate Alcorn County organization existed, but now the outlook is so bright for the future that permanency seems to be guaranteed. The Society was organized to combat some economic problems but it now has social and scientific functions also. The increasing percentage of attendance shows that the members consider the meetings worth while. We are afraid we will miss something if we do not go, and besides we like the fellowship. Neighbors, if you do not have a medical club, Organize! You will find it profitable.

OSTEOMYELITIS OF THE FEMUR

Case Report

Dr. M. W. Robertson
Corinth, Miss.

M. P., a white male, age 15, farmer, complaining of fever, pain and swelling of the knee, was seen by me at his home on August 15.

The patient had a stone bruise on the heel about July 1, 1934, which healed promptly. On July 10, the knee became painful and gradually began to swell. He began to have fever every day, lost weight, and the appetite became poor. He was seen by me and was advised to go to the hospital, where X-ray examination showed necrosis of the lower third of the femur. An incision was made on the inner side of the

leg just above the knee joint and one quart of pus evacuated. The wound is still discharging some. Patient still runs fever at times, but is gaining in weight, although the right leg is swollen to hip joint—two or three times the size of the other leg. The bone seems to be enlarged to the middle third of the thigh.

FUNCTIONAL UTERINE BLEEDING

Case Report

Dr. Bernard Patrick
Corinth, Miss.

A white female, age 25, came to the office Nov. 29, 1933, complaining of female trouble.

Present illness began about six month ago with pain across the small part of the back and hips. There is pressure in her rectum and also on the bladder causing frequent urination. She says that she seems to be swollen some in the lower abdomen, especially during periods. She has hot flashes. Last menstrual period was two weeks ago. Periods are regular, no particular pain, and they last about ten days. She has a moderate vaginal discharge.

FAMILY HISTORY: Negative for tuberculosis and cancer.

PAST HISTORY: Has had mumps and whooping cough; frequent headaches; dyspnea during hot flashes; gastro-intestinal symptoms negative; nocturia once.

MARITAL HISTORY: Married nine years—three children, the youngest living child 6 years old; one child born dead two years ago, full term; no miscarriages.

PHYSICAL EXAMINATION showed tonsils enlarged and diseased; thyroid gland palpable; heart regular in rate and rhythm but somewhat accelerated; blood pressure 140-80; lungs clear.

Abdomen showed tenderness over lower portion. Pelvic organs showed a second degree laceration of the perineum, and a severe, deep, stillate laceration of the cervix which extended to the left vaginal fornix. This seemed to be fairly well healed but there was some ectropion of the anterior and posterior lips. Nothing abnormal could be found in the adnexa or the fundus of the uterus.

DIAGNOSIS: Functional Uterine Bleeding.

TREATMENT: Antuitrin "S", 1 c. c. each day for three days, then once a week until the ten treatments were given.

Patient reported on February 1, 1934, that she was much improved. She said her periods only lasted about three days and that she did not have hot flashes or backache any more.

NOMA (GANGRENOUS STOMATITIS)

Case Report

Dr. S. L. Stephenson
Corinth, Miss.

PATIENT: White, male, age seven years. Was

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Oto(ear)-laryngo(throat)-rhin(nose)-ology

Bronchoscopy-Esophagoscopy

Ionization for Hay Fever

seen by me for reason of chills, fever and chiefly salivation.

HISTORY: Had been in usual fair state of health until three weeks previous, when he came down with measles. No illness previous to measles since five years of age, when he had an attack of malaria.

PHYSICAL EXAMINATION: Poorly nourished, acutely ill and septic, chest, abdomen and extremities negative. Temperature 104 (axilla) pulse 130, mild delirium, cried considerably for child of his age. Dry skin, however, no decided dehydration. Refused all food but drank all water offered. Some looseness of bowels: had not taken calomel or other purgative. The lingual and right cervical glands very large and tender. Right cheek swollen and smoky in appearance.

ORAL EXAMINATION: First sign was rotten odor and slobbering. On buccal surface of cheek extending along the lower maxillary to the right side of mouth was a spreading ulcer, dark red and spongy-exuding pus and blood—no false membrane found in mouth, throat or tonsils; tonsils slightly enlarged but only mildly inflamed; left cheek negative.

DIAGNOSIS: Gangrenous Stomatitis.

TREATMENT: Codein was given P. R. N. to control pain and restlessness. Ice applied to head and face on affected side. Irrigation with solution of sodium perborate was ordered at close intervals—also peroxide was used. Whiskey, one-half ounce with sugar and egg in form of egg flip was given every three or four hours to sustain heart and provide food. As there was difficulty in swallowing, all foods had to be forced, yet ice cream and gelatin was taken daily. No orange juice given due to burning effect to mouth. No laxatives given, but soda enemas attempted daily, water pushes all the time.

As this patient was the son of a destitute family some things naturally had to go undone, namely, laboratory findings, and nurses' attention.

My supposition was the infected mouth was due to a strain of streptococci, staphylococci, the bacillus and spirillum of Vincent.

No intra-venous medication was attempted. On the seventh day patient still alive and improved, fever 101 (axilla) cheek still discharging, but inside of mouth much better, less dark and lesser amount of necrotic tissue.

Treatment the same as before, but added a tonic of arsenic, nuxvomica and iron.

On the 20th day the patient was up about the shack, clear of fever and willing to eat.

Later patient was brought to my office where a closer inspection was made of mouth.

The gangrenous slough had destroyed the alveolar process from the posterior side of six year molar to the cuspid. Patient claimed to have spit out some teeth but I removed the loose six year molar, bringing the alveolar process with it with its unerupted permanent teeth.

The necrosed tissue was trimmed away and irrigated with a borax solution. At this stage cicatricial tissue to size of silver half dollar had closed the wound in cheek. Adhesions not as great as anticipated.

The father of child, a roving tinner and stove repairer, disbelieving all along the seriousness of his son's disease, stated he must leave for some town where he could get employment, and unceremoniously left Corinth with the convalescent son.

Oxygenated Blood In Transfusion

S. F. HOGE, M.D.
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The indications for blood transfusion are familiar to all. The medical profession probably has no more dramatic life saving measure than the infusion of whole or citrated blood, into a patient whose condition demands immediate support in a manner that requires the least effort in the part of the body to utilize. The blood being the mobile life giving and life supporting "tissue", warrants the first consideration. It is the quickest method we have of supplying medication to the various tissues, furnishing a new increment of pabulum, removing catabolic toxic substances, supplying hormones and enzymes as antibodies, encouraging oxygen-carbondioxide interchange or oxidation and supporting life of the cell.

Since most of the bio-chemical changes of the cell are in their final analysis reduced to the process of oxidation, it seems only logical that the study of the assimilation, use and elimination of oxygen should be of paramount importance in the body processes. A review of the present knowledge of this interchange may serve to place the above procedure on a more nearly exact basis. We owe to Henderson and Henderson (1), much of our scientific advancement on this particular subject, and I shall take the privilege of quoting from them freely.

To obtain a more exact knowledge of the various factors with which we shall deal, it will be necessary to give some figures relative to the air which we breathe, the ratio and proportion of its various constituents as it passes thru the bio-osmotic membrane of the lungs, is carried thru the arterial system, and into the fluids which surround and bathe the cells, the interchange here with the carbon-dioxide, acids and buffer substances, the return by way of the venous system, to the same bio-osmotic membrane in the lung where it is again liberated.

The analysis of air at sea level with a barometric pressure of 760 mm shows the various fractions in the following ratio. There is a partial pressure of 160 mm of Oxygen, 600 mm of Nitrogen, 0.3 mm of Carbon-dioxide, traces of Argon, aqueous vapor, etc. During normal breathing, there are in the aveolar air of the lungs, partial pressure of about 100 mm of oxygen, 40 mm of carbon-dioxide, 570 mm of nitrogen, and 50 mm of water vapor. The free, easy and repeated communication of the air in the lung, with that of the surrounding atmosphere, maintains a total gas pressure in the alveoli, the same as that of the outside air, 760 mm. The bio-osmotic phenomenon of the lining membrane of the alveoli and the air sacs takes up these various gases and delivers them to the blood in its course to the left side of the heart, at almost the same partial pressures as these gases have in the lungs. This bio-

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osmotic phenomenon of the lining cells is of the very greatest importance and will be referred to in the subsequent discussion.

From the left side of the heart the blood is carried thru the vascular system to its ultimate distribution over the body. In the normal functional state this carries oxygenated or arterial blood to the tissues. The hemoglobin saturation point of the oxygen in the red cells being between 96 and 100 per cent, the other constituents of the air, ie, nitrogen, carbon-dioxide and water vapor are in approximately the same ratio and proportion as that found in the alveoli and air sacs.

In the tissues the blood loses its oxygen and takes up carbon-dioxide. The qualitative loss of oxygen and the like increment of carbon-dioxide varies somewhat to the respiratory quotient at the time. These two gases are held in combinations with the blood constituents by two distinct mechanisms. The oxygen is combined as such with the hemoglobin fraction of the red cell, while the carbon-dioxide is combined largely with the alkaline buffer substance sodium bicarbonate. The partial pressure of oxygen is thus lowered much more than the carbon-dioxide is increased. As a result of the disproportion of the partial pressures of these two gases a considerable amount of carbon-dioxide may be taken up in combination with the buffer substances, with little or no increase of its pressure. At the same time however this increased combination of carbon-dioxide has markedly decreased the oxygen content of the blood.

This interchange of gases with the utilization of oxygen and the accumulation of carbon-dioxide has occurred in the cell incident to its metabolic phenomena. The blood approaching this cell was arterial blood carrying the complement of gases as above listed, after passing the cell where the interchange of these gases took place it has changed from arterial to venous blood. The analysis of this blood gives us an entirely different ratio of its various constituents. The oxygen content of the red cell is no longer 96 to 100 per cent saturation, but shows a saturation point of but 40 mm; a lowering of 60 mm of oxygen below that of arterial blood. The partial pressure of carbon-dioxide is simultaneously increased but to a much less degree, rising 6 mms or even less. With a partial pressure of 40 mm of carbon-dioxide in the arterial blood and an increase of 6 mm of carbon-dioxide by absorption from the cell the venous blood now reads 46 mm of carbon-dioxide. The nitrogen and water vapor remain practically unchanged being 570 mm and 50 mm, in both the arterial and venous blood.

Reducing the metabolic activity of cells to the basis of an oxidation process it at once becomes evident how necessary and essential a constant and generous supply of oxygen is to the maintainance of life and the vital phenomena of cell activity. This should apply to all cell activity concerned in body mechanisms and functions.

The heart being considered as the motor driving the blood the body infers, that this structure shall be continuously supplied with a generous to an abundant amount of the essentials to its activity. The element of energy is in the form of glycogen, burned thru its combination with oxygen. The physiologists have demonstrated that the heart zealously guards its glycogen supply and that sufficient cardiac func-

tion is dependent upon adequate supplies of oxygen and glycogen. The glycogen in turn being dependent in a large measure upon the supply of glucose and the oxygen dependent in a large measure upon a supply passing thru the bio-osmotic membrane of the lung combining with the hemoglobin in the red cell to the point of saturation and arriving without quantitative diminution and being available for cell metabolism. In the consideration of this oxidative process we must not lose sight of the hormonal activator: Insulin. It has been further demonstrated that glucose, oxygen and insulin are necessary in maintaining an adequate glycogen supply for heart muscle activity.

This is distinctly noticeable, clinically in the so called thyro-toxicosis heart, where the decrease of glycogen may reach as low a figure as 40 per cent of normal. Even on high carbohydrate diets hyperthyroid hearts cannot maintain their value of glycogen. It has been further demonstrated that the hyperthyroid heart is more sensitive to oxygen withdrawal than a normal heart. Dr. Meakins of Montreal, has tersely expressed this as follows: "There are three important known conditions which may lead to failure of the cardiac muscle to function properly, thru a defect in glycogen metabolism. They are, oxygen want, thyro-toxicosis and insulin deficiency."

Thus in review it would seem that oxygen is an essential, probably the most essential single factor in the oxidative processes in cell metabolism. It would seem that our attention would be directed toward the factors that might interfere with this adequate supply.

The ventilation of the lung is in most instances adequate, except in high altitudes or known deficient supplies in the atmosphere. The bio-osmotic phenomena of the interchange of oxygen and carbon-dioxide of the lining cells of membranes of the alveoli and air sacs is as yet an unsolved problem, and when solved may lend much to our knowledge of oxidation. The normal complement of hemoglobin in the red cell with its affinity for oxygen is a fairly constant quantity being between 96 and 100 per cent. Pathologic bloods on the other hand may distinctly alter the functional efficiency of this factor. The hydrogen ion concentration of the cells, also related to oxidation is maintained within narrow limits, Ph 7.2 and 7.5. The eliminative function on the part of the red cell and the buffer substances of the blood in normal states is apparently relatively constant in that, the partial pressure of carbon-dioxide of arterial blood is 40 mm, while that of venous blood is 46 mm.

From the above observations it may seem plausible to furnish the tissues with a blood carrying its normal complement of oxygen and carbon-dioxide. In the usual technique of transfusions the blood is obtained by venous puncture, the analysis of which would show an oxygen deficiency of 60 mms and a carbon-dioxide increase of 6 mms. A blood which

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the metabolic process of normal cell had removed its anabolic factor and saturated it with its catabolic products. It is true that by introducing this blood into the vein it is carried thru the lesser circulation in the lung, where the relationship of these gases is supposed to be changed. This supposition is based on the hypothesis that the ventilation of the lung is adequate and that the bio-osmotic phenomena of the lining cell of the membrane of the alveoli and air sacs is efficient. In many of our clinical pulmonary states it seems that this hypothesis is open to question. It seems further that blood, that may be delivered to the lung in the same manner and charged with its full complement of oxygen does not lose this oxygen as it passes thru the lesser circulation. On this basis we would be delivering to the tissues a blood carrying its full complement of oxygen and its normal quantity of carbon-dioxide, nitrogen, and water vapor, without calling upon the body to contribute toward this supply.

In our earlier studies, of transfusion the direct method was investigated, perfected and used successfully. The artery of the donor poured arterial blood into the vein of the recipient. If our chemistry of the arterial and venous blood is correct (I believe it is) the donor received, blood carrying 100 mms of oxygen, 40 mms of carbon-dioxide and 50 mms of water vapor, into the vein, conducted it thru the lesser circulation (without scientific evidence of chemical change), then back to the left heart from whence it was distributed over the body. It is thoroughly appreciated, that even with this accepted knowledge, we are yet unable to answer the question of possible additional bio-osmotic phenomenon that may be inherent in the cells of the air sacs and alveoli.

The wide and successful use of the direct method of transfusion has won many adherents. It has been supplanted to a large degree because of technical difficulties that must be eliminated. The indirect method is simpler, has erased many of these difficulties, enjoyed a wider use, but has not entirely merited the high degree of efficiency of the direct method.

The introduction of Oxygen into the blood by artificial methods prior to its infusion into the vein of the recipient is an attempt to duplicate as nearly as possible the oxygen and carbon-dioxide values of arterial blood. If this object has been attained (I believe it has) we have preserved the merits of the direct method of transfusion and with the same stroke, erased the technical difficulties which have contributed to its lack of continued wide clinical use. The problem as to whether the oxygen and carbon-dioxide values play the entire role in this change, will be solved by its wide application, the proper evaluation of its merits and demerits, the latter of which I have thus far seen none.

The oxygenation of venous blood in vitro is a simple procedure. The ordinary citrated blood may be drawn and charged with a stream of pure oxygen and the dark venous color observed to yield to the bright red of arterial blood. Microscopic studies of the red cells so charged has in our hands failed to show disturbance of the morphology of the cell. The fragility is apparently not disturbed. Certain factors have become evident which suggest an increase of coagulability on the part of the oxygenated blood. Oxygenated blood was further tested in the Wasserman

set up with apparent increase in the antigenic phenomena.

With this knowledge in mind sixteen (16) transfusions were conducted in which the blood drawn from the vein was charged with a stream of pure oxygen until the venous tinge of the citrated blood yielded to that of the arterial color. The clinical observation and results were in each instance most gratifying. The exact details of each instance will be deleted, since they were similar to those of the average transfusion using citrated blood.

While we appreciate that sixteen (16) cases furnish nothing more than suggestive evidence, yet we believe that a statement of exact facts as they occurred, may encourage others so inclined to give the method due consideration and possibly verify the results which will tend to prove or disprove the true merits of the process.

Findings:

- (a). The dark color of venous blood yields to the bright red of arterial blood in the presence of a stream of oxygen, in vitro and at atmospheric pressure.
- (b). The charging of citrated venous blood with oxygen is an attempt to replace the katabolized oxygen of the red cells to better fit them in the performance of their usual function.
- (c). The technical difficulties met in uniting the artery directly to the vein as in direct transfusion are erased, yet the oxygen—hemoglobin saturation of arterial blood is maintained.
- (d). There are encouraging possibilities (clinical evidence) that other beneficial bio-chemical changes play a role in the process (coagulability, fragility and serology).
- (e). Tersely expressed from clinical observation —“Oxygenation is to citrated blood for transfusion, what ethylization is to gasoline.”

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Subphrenic Abscess

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A subphrenic, or subdiaphragmatic, abscess is a circumscribed collection of pus located in one of those spaces between the diaphragm above and the transverse colon and mesocolon below. They are characterized clinically by a combination of thoracic, diaphragmatic, and abdominal symptoms variably related to each other. Predominant symptoms vary as to the location of the infection. The incidence of subphrenic infection is relatively high, but as most

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do not proceed to suppuration, the incidence of frank abscess is much lower. The gravity, obscureness of signs and symptoms, and technical difficulties associated with treatment make for subphrenic abscess a major surgical problem.

ETIOLOGY: Of the organisms usually associated with suppurative lesions below the diaphragm, the colon bacillus, and the staphylococci and streptococci predominate. Subphrenic infections occur in about 88 percent of instances as secondary to suppurative lesions arising in neighboring organs, namely, appendix, peptic ulcer, liver and bile passages, colon, and occasionally from the lung or pleura, kidney and spleen. Penetrating wounds and contusions contribute to a small percent. Rarely, preliminary idiopathic cases occur that are probably hemotogenous and originate in some foci of infection. It has, occasionally, followed grippal infections and unruptured appendicitis.

TOPOGRAPHICAL AND PATHOLOGICAL ANATOMY: Briefly, abscesses to the left of the midline are in relation to the spleen, left lobe of liver, cardiac end and posterior wall of stomach, left kidney and adrenal, and tail of the pancreas. Those abscesses appearing to the right of the midline may occur in either of the following spaces:

1. Retroperitoneal space; which is that triangular area bounded by the coronary ligaments and known as the bare area of the liver.

2. Intraperitoneal spaces; consist of a suprahepatic portion divided by the falciform ligament into a right anterior superior space which is further divided by a reflection of the coronary ligament into a small posterior space, and a left anterior superior space. The infrahepatic portion is divided by the round ligament and the ligament of the ductus venosus into a right anterior inferior space and a left anterior inferior space which is again divided by the lesser omentum into an anterior and posterior space. The pathology of subphrenic abscess in the intraperitoneal space is that of localized peritonitis. Localization occurs from eight to fourteen days after onset. The character of the pus varies as to origin and position. Pus connected with the liver is brown and mixed with blood coagula, while that connected with the biliary passages is yellow. A thin fetid pus denotes appendiceal origin, that from the stomach an acid odor, and that from the kidney with a tuberculous base is thick and odorless. Occasionally the abscesses contain gas.

DIAGNOSIS: The diagnosis of subphrenic abscesses other than those secondary to known conditions is often an extremely confusing process. There are few or no constant pathognomonic signs by which the true pathology may be noted until late in the development of the frank abscess. The onset is usually insidious with a gradually increasing severity of rigors, sweats, fever, and leucocytosis. Pain may be early or delayed. Nausea and vomiting may or may not be present. There may or may not be slight cough and dyspnea. As the process develops pain becomes predominant. The appearance of sepsis becomes more evident as the disease progresses, until positive emaciation ensues. At this stage, death is at hand unless there is surgical intervention, or spontaneous rupture into either an abdominal or thoracic viscus. In the latter event, the patient may recover into a chronic

invalidism for an indefinite period of time.

Those abscesses occurring after a more or less quiet interval following and secondary to known lesions are more likely to present aspects that make a diagnosis probable. These occurrences are manifest by a rise in temperature, leucocytosis, rigors, sweats, and varying degrees of pain and tenderness over the involved area.

Whether primary or secondary, there is a sense of pressure in upper abdomen, dyspnea, limited excursion of diaphragm on affected side, dullness continuous with liver or spleen, localized tenderness over lumbar region in extraperitoneal, over 12th rib in posterior superior space, along costal margin in anterior superior spaces, and directly over the point of abscess in the other spaces. In the anterior and inferior spaces, there may be a frank bulge that simplifies both diagnosis and treatment. Pleurisy with a rub or effusion may appear at any stage to complicate the diagnosis. Although fluoroscopy and X-ray reveal the most constant diagnostic sign, that of elevation and fixation of the diaphragm, aspiration remains the only means whereby diagnosis may be positively established, and this procedure must not be used indiscriminately.

PROGNOSIS: Of all reported cases of subphrenic abscess, the mortality varies from 23 to 100 percent. Contributory, beyond the gravity of the condition itself, is the fact that so many are far advanced when a diagnosis is made. Beyond the usual surgical complications, peritonitis and empyema are frequent following drainage of the original abscess, and undoubtedly contributes directly to the high mortality. In December, 1933, Alton Ochsner and Amos Graves collected 1,072 cases from the literature in which non-operative treatment was used with a mortality rate of 91.1 percent, as contrasted with a rate of 33.6 percent in 1,693 cases in which drainage was instituted.

TREATMENT: The treatment of subphrenic infections is divided into the following groups:

1. Prophylactic, which consists in early diagnosis and treatment of the commoner surgical conditions to which subphrenic abscess is secondary, wide drainage of original suppurative lesions, Fowler's position, and abundant fluids by clysis.

2. Conservative; Unless there is definite abscess formation, immobilization of the affected side by adhesive, the application of dry heat over the involved area, and adequate fluids will often promote resolution before suppuration occurs.

3. Operative: Incision and drainage is indicated as soon as suppuration occurs. This is evidenced by persistent signs of systemic infection, hectic type of temperature, leucocytosis, and persistent tenderness over the affected area. Of the operative procedures in use, the transperitoneal and transpleural approaches have been used most frequently, with a consequent mortality of approximately 40 percent. These procedures have the disadvantage that in most instances an uninvolved portion of the periton-

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eum or pleura must be traversed in order to reach the abscess, in which case, peritonitis or empyema must ensue. In the transpleural operation, this disadvantage is partially offset by performing the operation in two stages.

Alton Ochsner, an advocate of the retro- and pre-peritoneal approaches, says that since using these technics he has reduced the mortality in his series to about 6 percent. In the retro-peritoneal operation, he resects the 12th rib subperiosteally, makes a transverse incision through the attachment of the diaphragm below the bed of the resected rib at the level of the first lumbar spinous process. Through this opening, by means of the index finger, he dissects the peritoneum from the surface of the liver until the abscess is reached. Either a right superior or inferior abscess may be opened by this approach. The pre-peritoneal approach is indicated in anterior superior or inferior abscesses. An incision is made down to the parietal peritoneum parallel to and just below the costal margin, and the peritoneum dissected from the under surface of the diaphragm until the wall of the abscess is reached.

CASE REPORTS

Case No. 1. S. H., colored male, age 27, whose past and family history is irrelevant, was first seen by me three weeks after an insidious onset of mild rigors, aches, fever, and sweats. At the end of the second week, he had a sudden severe pain in right lower chest and lumbar region posteriorly that was slightly increased by respiration. At the time I saw him this had subsided into a severe pain of dull aching character. During this time he had been treated for influenza. Due to his economic status two additional weeks transpired before he was hospitalized. His condition at the end of five weeks was one of grave sepsis, he had lost approximately twenty pounds weight. Daily temperature ranged from 99 to 103F, pain had continued, and there was slight dyspnea. There was some limitation of expansion of right chest, and pain to pressure over lumbar region posteriorly and downward to one finger below costal margin. At no time was there cough, hiccup, nausea, vomiting, or distension. There was no dysuria, and no history of indigestion or irregularity of the bowel.

A needle introduced in posterior axillary line between the 9th and 10th ribs found a brownish pus that contained blood coagula. An X-ray of the chest showed the diaphragm elevated to the level of the 6th rib with an obliteration of the costo-phrenic angle.

Since it appeared that the costophrenic angle was securely obliterated by adhesions, the trans-pleuro-diaphragmatic approach was elected and performed in one stage, the opening being made through a three inch subperiosteal resection of the ninth rib in the posterior axillary line. Approximately 500 c.c. of brownish pus mixed with blood coagula was evacuated from the extra-peritoneal space. The post-operative course was uneventful and he was discharged to his home on the 8th day. Drainage continued for about three weeks, ceased, and the wound healed. It is now the 8th month since the operation and he is in excellent condition. There is no pain or discomfort and he has regained his original weight.

Case No 2 H. P. White male age 39 was operated March 27, 1934 within eight hours after perforation of a duodenal ulcer. The ulcer area was resected and

closed and drains inserted. During the latter part of the second postoperative week a temperature range from normal to 100 F. gradually rose to 100 to 102 F., there was moderate to severe pain in upper abdomen, moderate distension and some nausea but anterior inferior space which was just to the right of the old incision. A secondary subphrenic infection was evident, and dry heat was applied. While this partially relieved the pain, it was evident that the infection was progressing to suppuration. Rigidity and tenderness increased, and a mass was soon palpable. As his condition did not appear grave, conservative treatment was continued until April 17, about 10 days after the onset, when there was a distinct bulge of an easily outlined mass just to the right of the previous incision. The impression was that the mass was adhered to the parietal peritoneum. Consequently, the transperitoneal approach was elected and direct incision was made through the involved peritoneum into the abscess cavity. Drainage was instituted and recovery followed. Two months later gastro-enterostomy became necessary due to partial obstruction at site of perforation, and there was no sign of infection and relatively few adhesions.

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Spontaneous Rupture of an Apparently Normal Spleen

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Up to the present time there has been reported in the literature 18 cases exclusive of the present one. These cases appear to be authentic reports with the possible exception of the cases of Skerrett and Atkinson which might be considered doubtful because of their very brief reports.

There are so few cases of this nature reported that I will include here a list of them in order to have the literature on this subject as complete as possible.

The following men have reported cases: Atkinson (2), Skerrett (3), Shorter (4), Connors (5), Metcalf & Fletcher (6), two cases, Capecchi (7), Susman (8), Rhame (9), Vinogradoff (10), Remyne (11), Uunderwood (12), Harvey (13), Byford (14), Bailey (15), Nixon (16), Dandinski (1), Halliwell (17).

REPORT OF CASE

White male, age 54 years, came to the clinic of the South Mississippi Charity Hospital at 8:45 p. m. June 29, 1934 with the following history:

c.c. severe pain in upper left quadrant radiating to left scapular.

P. T. Patient awakened as usual at about 4:00 a. m. June 29, 1934, and had a normal stool; he churned butter before breakfast as usual and ate breakfast about 5:00 a. m. and went out to milk, finishing milking about 6:30-7:00 a. m. He stepped over a low rail fence and walked about 30 to 40 steps when he was seized with a sudden severe pain in his left side just under the costal margins, and had an immediate desire to defecate, and did have a normal stool. He stated that he decided he had "bowel trouble," and walked to the house arriving there about 7:30 a. m. About 8:00 a. m. he was given a dose of Magnesium sulphate. Also about 8:00 a. m. the pain became more severe and went through to his left scapula. He was never able to lie down and was only able to sit down for about ten minutes at a time up to about 10:00 a. m. when he was neither able to sit nor lie down. The Magnesium sulphate acted

twice and he could not sit for these bowel movements. The patient states that he would just walk around and when he got tired would lean against something. He complained of developing a stiffness of his body about 10:00 a. m. and was unable to twist, turn or bend his body.

After being unable to get into a car to go to a doctor, one was sent for who immediately, after examination, gave him a hypodermic which was repeated in about thirty minutes, and insisted on his coming to the hospital.

The patient was never nauseated, never vomited.

P. H. Was negative for any illnesses except Measles and Mumps. No chill or fever, no Malaria or Typhoid.

F. H. Negative.

Physical Examination reveals a well developed and well nourished white male about the age of 50 years unable to sit or lie down, flushed face, anxious expression. After much persuasion the patient was able to partially lie down with his thighs well flexed.

Temperature 98.

Pulse 74.

Respiration 20.

Head negative, with the exception that the mucous membrane of the mouth being pale.

Neck was negative.

Chest negative.

Heart was regular in rate in rhythm, sounds normal, rate 74 and B. P. 100-70.

Abdomen was slightly distended and had a peculiar doughy feel. No masses, tympanities or rigidity noted but a great deal of muscle defense on palpation. There was marked tenderness in the left upper extremities.

Laboratory:

W. B. C. 25,000.

Polys 90.

S. L. 8.

L. L. 2.

Urine negative.

Wassermann and Splenic smear were negative.

PREOPERATIVE DIAGNOSIS: Acute Surgical Abdomen. Possible ruptured ulcer with internal hemorrhage.

OPERATION: Thru upper right midrectus incision the abdomen was opened and explored under spinal anesthesia. The abdomen was found to be filled with fresh blood. The spleen had a rupture on its convex surface that extends from its lower border over its entire length and the capsule is wrinkled and retracted. The spleen otherwise was apparently normal in size and consistency. Splenectomy was performed and the abdomen closed, leaving a penrose tubing drain to the splenic pedicle.

POSTOPERATIVE DIAGNOSIS: Spontaneous Rupture of an Apparently Normal Spleen.

Immediate transfusion of 500 c.c. whole blood, and the patient was put on the usual postoperative orders with hypodermoclysis of normal saline with 5 percent glucose every six hours as tolerated.

Patient had an uneventful recovery and went home on the thirteenth day.

Repeated blood counts after leaving the hospital were normal except for a mild anemia.

CONCLUSIONS

1. This is the 19th case of spontaneous rupture of an apparently normal spleen to be noted.

2. I wish to relate a few signs and symptoms which are fairly typical; sudden severe pain in the upper left quadrant under the costal margins which may or may not be constant. If it is not constant, it returns more severe in a short while and radiates to the left scapula region which is Kehr's sign.

3. In this series of cases it was seldom diagnosed, the most frequent diagnosis being ruptured peptic ulcer.

4. Treatment is surgical; immediate if the patient is not in severe shock. If the patient is in severe shock supportive measures, intravenous medication and transfusion to bring the patient back to a state where an operation may be performed. The operation of choice is Alluay's splenectomy.

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The Indiscriminate Use and Rental of Radium

Resolutions adopted by American Radium Society at Annual Meeting, Cleveland, June 12, 1934; also adopted by American College of Radiology, June 12, 1934.

WHEREAS it is now recognized that radium has been demonstrated to be of definite value in the treatment of disease, and

WHEREAS some States and many communities in the country have little or no radium available, and

WHEREAS funds are not always available for the purchase of suitable preparations of radium for use by those physicians who are qualified in radium therapy, and

WHEREAS we recognize that radium is an agent quite as potent for doing harm as for doing good when used without sufficient skill or training and with the hope of protecting the uninformed public from serious and irreparable injury from improper and insufficient treatment.

BE IT RESOLVED that we consider it improper,

unethical and detrimental to the science of Radiology and to the good of suffering humanity for commercial laboratories to attempt to give advice or directions as to the use of radium in the case of a patient whom the person giving that advice has not even had the opportunity to examine. In other words, it is just as difficult to give such advice and directions as it would be for a surgeon to give directions for the use of rented surgical instruments so that an untrained physician might attempt an operation. Various commercial companies advertise both in the Journals and through the mails, medical advice for the purpose of making sales or renting radium or radon. This places these corporations in the field of practicing medicine.

BE IT RESOLVED that the same criticism be applied to institutions which rent or furnish their radium to those members of their Staff or outside of the Staff who are unskilled in radium application.

RESOLVED that the same criticism applies to many individual owners of radium.

RESOLVED that we regard the approval of the National Board of Radiological Examiners as the minimum standard for those assuming the responsibility for using radium. We recommend as wide publicity of this Board's existence and approval as is possible to the public, consistent with ethical practices, as the most effective safeguard which can be afforded them.

RESOLVED that we recommend the refusal of advertising matter in National and State Journals when the companies concerned are advertising a Medical Consulting Service or are advertising such service through the mails in connection with their sale or rental of radium.

RESOLVED that we disapprove of any doctor's acting as a Consultant to a commercial company carrying on such a campaign of public or private advertising and that we consider such an association sufficient grounds to warrant disbarment from the approval of the National Board of Radiological Examiners.

RESOLVED that we recognize the ethical commercial company as a necessity. It is the advertised Consulting Service that is at fault. It is recognized that such restrictions on the advertising of a Medical Service will in no way hamper properly qualified Radium Therapists in obtaining adequate supplies of radium or radon for the purposes in which they are qualified to use it.

RESOLVED that we approve an informal Medical Consultant for the guidance of those commercial companies who refrain from advertising such professional service, either publicly or privately and that in such case their informal Consultant be one approved by the National Board of Radiological Examiners.

Instead of having so many nurses why not train about one third of them to do office work in a clinic or up-to-date office. Teach them to have sense, to treat patients decent, to work, to look after the business side of the profession, to keep the office clean, to economize.

It usually does not pay to make a fancy diagnosis, most people die of ordinary diseases.



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MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

VOL. 12

BOONEVILLE, MISSISSIPPI, NOVEMBER, 1934.

NO. 6

Why Not Think?

It's a little thing to do,
Just to think,
Anyone, no matter who,
Ought to think,
Take a little time each day
From the m'utes thrown away,
Spare it from your work or play,
Stop and think.
You will find that those who fail
Do not think.
Those who find themselves in jail
Do not think.
Half the trouble that we see,
Trouble brewed for you and me,
Probably would never be
If we'd think!

—Author Unknown.

Relative Values of Carbohydrates Employed in Infant Feeding

Continued down from 1911

1916

"For the addition of sugar, I usually use dextrin-maltose, which does not easily cause fermentation."—*L. L. Meininger: Use of Eiweissmilch, Arch. Pediat., 33:529-532, July, 1916.*

1916

In the treatment of marasmus, "Three per cent of malt sugar should be administered from the first, afterwards running up to as high a per cent as the child will take."—*L. T. Royster: A Handbook of Infant Feeding, C. V. Mosby Co., St. Louis, 1916, p. 100.*

1916

"Least irritating of all sugars, and more readily digested and quickly absorbed, is maltose."—*H. Lowenburg: A Practical Treatise on Infant Feeding and Allied Topics, F. A. Davis Co., Phila., 1916, p. 73.*

1916

"Dextrin-maltose is valuable in cases where intestinal disturbances are due to fermentation of milk sugar."

"Treatment (of sugar intoxication) consists in eliminating the latter (whey salt) as well as the sugars from the diet temporarily, and when the symptoms have subsided, a different sugar in proper proportion should be cautiously added; maltose and dextrin are preferable, because they are not apt to produce fermentation, while milk sugar is prone to set up fever and diarrhea."—*E. E. Graham: Diseases of Children, Lea & Febiger, Phila., 1916, pp. 179-201.*

1917

"For children who are not gaining on a normal formula with a sufficient amount of sugar of milk, or children who vomit when sugar of milk is fed, or who are constipated, the use of maltose instead of lactose often gives most satisfactory results. This is readily accomplished by substituting for the 4 or 5 per cent. of added sugar of milk an equal amount of dextrin-maltose or malted milk, which latter gives, in addition to the maltose, some protein food and an insignificant amount of fat. In many cases children who have failed to gain on other food will immediately show a marked gain as soon as this change is made."—*R. G. Freeman: Elements of Pediatrics, Macmillan Co., New York, 1917, pp. 191 and 192.*

1917

"The carbohydrates most used in infant feeding are the three soluble sugars and starch. The three soluble sugars are lactose, or milk sugar, maltose, or malt sugar, and saccharose, or cane sugar. Maltose is not used in its pure form, on account of its cost. The various commercial preparations of maltose are combinations of maltose with various dextrans, but as in digestion dextrin is converted into maltose, the chemistry is practically the same."

"The sugar which is not absorbed is broken down by the bacteria of the intestine into a great variety of fermentation products, among them being lactic, butyric, acetic, and succinic acids."

"Another effect of the excessive fermentation which results from a relative excess of carbohydrate in the food, is the formation of an excessive amount of gas. This may cause abdominal distention, and, extending backward, it may carry irritating acid products into the stomach, and thus cause vomiting."

"Lactose is the sugar most likely to produce acute symptoms. The stools are practically always green and very irritating. Flatulence and colic are less prominent."

"The maltose-dextrin preparations rarely produce acute exacerbations."—*C. H. Dunn: The Hygienic and Medical Treatment of Children, Southworth Co., Troy, New York, 1917, pp. 423, 424, 425, 428.*

1918

"The sugars in the foods are milk sugar which is found in mother's milk as well as in cow's milk, cane sugar and malt sugar. Though milk sugar is a natural ingredient of milk it is not well borne by babies when added to their food; they digest cane sugar, the ordinary granulated sugar, much better; malt sugar is the easiest digested by babies."—*C. G. Leo-Wolf: Nursing in Diseases of Children, C. V. Mosby Co., St. Louis, 1918, p. 24.*

1918

"Maltose (malt sugar) has the advantage of being very easily digested; when part of the sugar given is maltose, many children gain more rapidly in weight than when only milk sugar or cane sugar is used."—*L. F. Holt: The Care and Feeding of Children, D. Appleton & Co., New York, 1918, p. 66.*

1919

"In the administration of protein milk with its large protein content, by adding to it sugar which is not easily fermented (dextrin-

maltose), we produce, instead of pathologic fermentation, a condition of putrefaction which changes the acidity of the intestinal contents to alkalinity, the peristalsis is decreased, the intestinal contents pass slowly through the large intestines with absorption of fluid and excretion of calcium and magnesium salts. These minerals unite with fatty acids to form the typical fat-soap-clay-coloured constipated stools characteristic of protein milk feeding, and it is at this point that dextrin-maltose should be added to the food."

"The majority of the cases were kept on protein milk for a period varying from three to four weeks, and, in many instances, contrary to the usual opinion, we were able to keep the children on protein milk plus starch and dextrin-maltose, sufficient for their caloric needs for a period of several months, in each instance accompanied by a substantial gain in weight and normal increase in vigor and tissue turgor with comparative freedom from digestive symptoms."—*A. Brown and I. F. MacLachlan: Protein milk powder, Canad. M. A. J., 9:528-537, June, 1919.*

1920

"There are three sugars commonly employed in infant feeding: (1) malt sugar or dextrin-maltose, (2) cane sugar, and (3) milk sugar. Malt sugar is the most easily digested and assimilated, cane sugar next and sugar of milk the least so."—*L. O. Frech: The coloric method of artificial feeding in normal babies, Illinois M. J. 38:484-488, Dec. 1920.*

1920

Regarding treatment in disturbed metabolic balance in infants, "The one carbohydrate which seems to give the most satisfactory results in these cases is malt sugar."—*C. H. Seybert: Disturbed metabolic balance in infancy, Hahneman, Monthly, pp. 379-382, June, 1920.*

1921

"Next to woman's milk is cow's milk in simple modification with water and sugar in proper proportions and amount according to the age of the child. Milk Sugar is the most expensive and least satisfactory sugar. Dextrin-Maltose is the best sugar."—*A. A. Shawkey: Infant foods and infant feeding, West Virginia M. J. 15:284-287, Feb. 1921.*

1921

With reference to hypotrophy, "In mild cases, the addition of dextrin-maltose instead of cane or milk sugar may be sufficient to obtain a gain in weight."—*C. Herrman: The treatment of nutritional disorders in artificially fed infants, New York M. J. 114:158-160, Aug. 1921.*

1921

"Maltose and dextrin compounds are acceptable to the infant's digestion in relatively larger quantities. They are not as sweet as cane sugar. They are of practical value when larger amounts of cane sugar are not well borne."

"The so-called 'Mead's Dextrin-maltose with Potassium Bicarbonate' is laxative, and in the presence of a stationary weight may be given in larger amounts."—*F. W. Ferguson: A method for the modification of cow's milk, Journal-Lancet, 41:628-629, Dec. 1, 1921.*

1921

For cases of fermentative diarrhea, "... the ideal plan of treatment would be to give a food which is low in sugar (the food which that group of organisms thrive on) and high in protein. Calcium caseinate milk accomplishes this purpose. In our series of cases, we found it was necessary to use the casein calcium for from 5-8 days; we then stopped it and added dextrin-maltose to the formula."—*A. G. DeSanctis and L. V. Paider: The value of calcium caseinate milk in fermentative diarrhea, Arch. Pediat. 38:233-236, April, 1921.*

1922

In the treatment of diarrhea, "The sugar is added gradually as conditions admit, some sugar other than milk sugar or cane sugar being used, preferably dextrin and maltose."—*H. E. Small: Diarrhoea in bottle-fed infants, J. Maine M. A. 12:154-158, Jan. 1922.*

1922

"The use of other soluble carbohydrates other than lactose for milk modifications are very good. Some believe the addition of dextrose or dextrin-maltose makes the casein curd softer and easier to digest. This is questioned, but all agree that in cases of malnutrition, where the patient is intolerant to lactose and cannot get the benefit needed from the fat in the diet that the dextrin-maltose is invaluable as it is the easiest sugar to digest, and can be immediately used for energy production without undergoing further change."—*E. G. Padfield: Remarks on infant feeding, J. Kansas M. S. 22:97-101, April, 1922.*

Continued down to 1934

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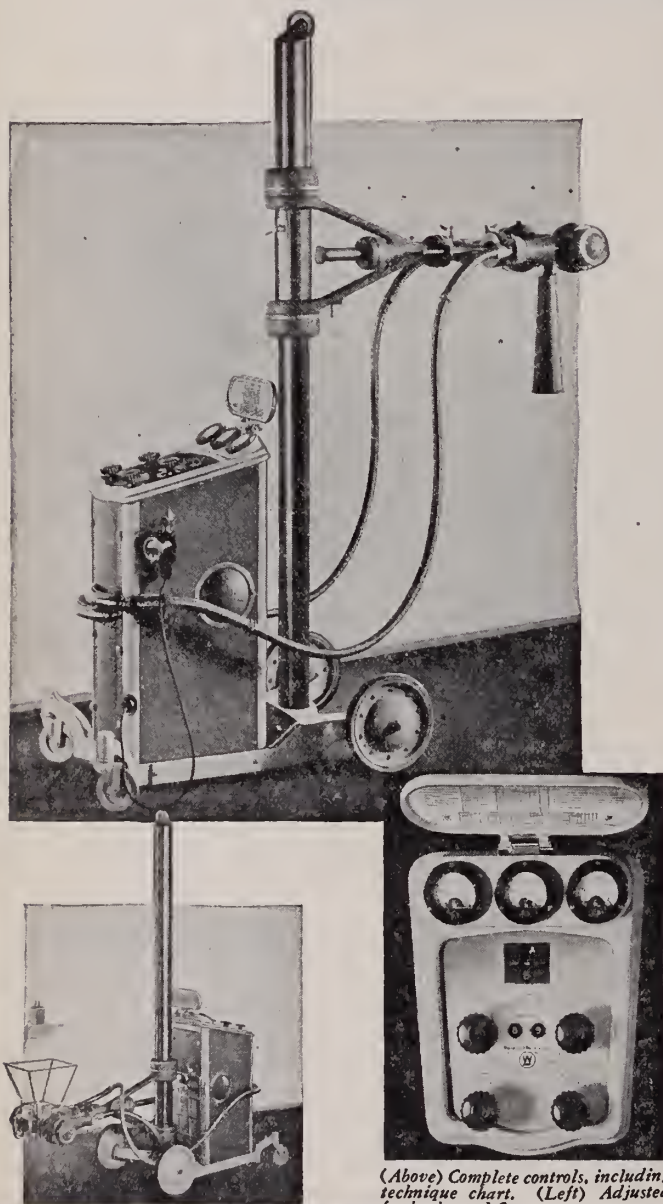


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Editorials

If we are to reduce the death rate in appendicitis we must operate earlier. The laity must be educated to call the doctor for any abdominal pain that lasts constantly for one hour. The surgeon must make the diagnosis on "pain and tenderness." The national, state, and municipal governments augmented by church and philanthropy must furnish funds for the actual charity; a hospital must be close at hand; the middle class must be able to enter, probably by means of hospital insurance; and the wealthy must learn that a country surgeon within six hours of the onset of an acute attack of appendicitis in a small hospital or even in the home is better than a Mayo in the best hospital in the world three days later. Dr. Time is the most successful surgeon now operating for appendicitis.

The Radiological Society of North America will meet in Memphis, Dec. 3 to 7. This is to be a great treat to the radiologist of the Mid-South. A wonderful program is in store for you. Dr. W. H. McGuffin, Alberta, Canada is president. In the practice of medicine and surgery and in diagnosis the X-Ray and Radium are indispensable. It is quite a distinction to Memphis to have this association. It will care for it in fine style. It is a very popular convention city. Don't miss this meeting. You will be sorry if you do.

Make your plans now to attend the Mid-South Post graduate Medical Assembly at Memphis in February at the Peabody Hotel. It is a post graduate course from the authorities in four days. The cordial atmosphere and the good fellowship will do much good also.

If you are due the Mississippi Doctor anything on subscription please send it along. You will not want to miss any copies. We can not spend many stamps for a subscription at one dollar. Please send us your dollar, if you are behind.

The next meeting of the North East Mississippi 13-County Medical Society will be held in Tupelo. We always have a fine meeting in Tupelo. The program will be good, the crowd will be large, and the entertainment will be superfine.

Dr. Pottenger, of California, writes with authority on the subject of tuberculosis in all of its phases. He is very popular with the Mid-South Post Graduate Medical Assembly. He speaks with authority and he is very practical.

Get a cut and a writeup of your hospital and send to us. It will not cost you anything to run it in The Mississippi Doctor. Let us get acquainted with our hospitals. Do not delay.

Group insurance is a mighty nice thing for the medical profession. Every doctor should be a booster for life insurance. He sees the need of it as no one else does.

Memphis is steadily gaining as a medical center.

Many men in this section have in store a treat in the meeting of the Radiological Society of North America at Memphis Dec. 3-7.

You will read with much interest the paper on malaria by Dr. George E. Riley of the Mississippi State Board of Health. It indicates that he is studying the problem.

Every practitioner will appreciate the fine, sensible, conservative and practical paper of Dr. Pride, of Memphis.

Now comes a new department, case reports from the Memphis Society of Ophthalmology and Otolaryngology. We hope to have this from time to time. You will find it very helpful.

Read Dr. Young on Chronic Alcoholism. This should interest every man in the practice of medicine. Dr. Young has had plenty of experience.

Read the paper of Dr. Rudner on Hypertension. Like the poor, you have this human ailment with you always.

There is nothing common or of small importance to the big men in the medical profession.

Any pain in the abdomen that lasts constantly for one hour should be counted appendicitis until it can be proved otherwise.

We must deal with the problem of appendicitis until it can be proved otherwise.

We must deal with the problem of appendicitis in all of its phases if we are to succeed.

It may be that quinine will cure malaria, but it is not doing it.

Eighty-five percent of medical and surgical practice should be done by eighty-five percent of the rank and file of the profession.

The general practitioner should be the most broadly educated man of any profession.

Depression psychosis is a big problem for the medical profession.

Every practitioner who does his work well and has a part in every discovery that is made by any one in the profession.

At this time the application of the known medical truths is of the greatest importance.

The time will come when post graduate work will be carried out to the practitioner. The auditorium in the small hospital will be a teaching center. This will be as it should.

The specialist should be called in consultation at the small hospital and the small hospital should be affiliated with the large one so to speak.

Immunity from disease is like insurance you must get it a head of time.

One trouble about having some registered nurses you have to hire one practical nurse and an orderly to wait on them.

You will be more than delighted with the Practical Talks on the heart by Dr. George L. Carlisle. You really can not afford to be without it.

The Vicksburg Doctors are having a big meeting on December 11th. They have one each year. It will be good to be there.

Consider your patient's stomach when you prescribe a half dozen different kinds to take the same day, when you are about to do so and you wont do it.

Dr. Seale Harris' discourse on the whiskey problem in The Mississippi Doctor has been muchly complimented.

Ask your neighbor doctor to subscribe for The Mississippi Doctor, the cheapest and the best.

The field of preventive surgery is growing daily.

The community hospital is the answer to the medical problem in the rural community.

Have you secured your Bible of Obstetrics, DeLee's last edition?

Sure we know the cause of malaria, but the death rate is still climbing.

Join in and have something to say on the problem of malaria.

Whiskey may have a small place in medicine, but socially and economically we have out grown it.

Dr. W. W. Crawford of Hattiesburg is prominent on the program of the Southern Medical Association.

Medical education must be brought out to the busy practitioner.

San Antonio will put on a big meeting for the Southern Medical Association. It will be good to be there.

Everything else being equal, please trade with the men who advertise in The Mississippi Doctor.

We thank Dr. Ogino for his book for review. It is very interesting.

We appreciate very much the one half page ad from C. Farmer Hendry. He will be in to see you and he will give you good service.

Initiative is the most valuable stuff any human can possess in time of the depression, but unfortunately but few have much of it.

What Should the General Practitioner Do for the Patient on Making A Diagnosis of Tuberculosis*

F. M. POTTENGER, M.D.
Monrovia, California

During the past half century, in fact, we may almost say, during the three decades of the present century tuberculosis has been brought from a status of hopelessness and despair and placed among the most hopeful of chronic diseases. This has come about through advances in clinical acumen, in laboratory practice, x-ray technique, and a better understanding of pathologic immunologic processes and of the mechanical factors in healing. This rapid progress has been due to research in all of the important branches of medicine, and to the application of the knowledge so gained by specialists in the clinic.

From the "let-alone" and "do-nothing" policy of previous centuries we have developed a regimen and a technique of treatment which makes it possible to secure a favorable result in nearly all patients suffering from early tuberculosis. This regimen is efficient in proportion to the intelligence with which it is put into practice. Today, the course that should be outlined for a patient when a diagnosis of tuberculosis is once made is fairly definite and should be understood by all practitioners of Medicine; for every physician is likely to find among his own patients some one suffering from the active form of the disease.

The physician must understand that any patient suffering from active tuberculosis, no matter how limited the disease, is a sick patient. He does not have to have continuous fever, nor does he have to feel ill. It is not necessary that he should be losing weight or be coughing and raising sputum. These symptoms may come and then disappear for a while, or for all time if the patient is properly treated. On the other hand, if the proper regimen is neglected, the symptoms may return sooner or later as the signs of an advanced and advancing disease.

Our aim in early active tuberculosis is simple: first to prevent unnecessary destruction of pulmonary tissue, and second, to prevent the spread of the disease. If these two aims are accomplished, we then have only the task of helping the patient to bring about such a state of non-specific and specific defense as is necessary to heal the lesion.

The patient should not be permitted to engage in any unnecessary physical exertion, nor anything else of a tiring and exhausting nature after active disease has been discovered. While he does not necessarily feel ill, yet from the standpoint of care he is as ill as a patient with appendicitis or pneumonia, and the worst part of it is he does not know it by his feelings. So long as the disease is active there is danger of its spreading and of the lung tissue undergoing destruction; and both of these processes are favored by exercise and may be prevented by rest.

On making a diagnosis of active tuberculosis, then, the patient should be put to bed immediately and kept there continuously, except for bathroom privileges, until the exact nature of the process has been made out and the plan of treatment has been devised. This course will probably be met by opposition on the part of the patient and his friends, for knowing nothing of tuberculosis they will be unable to conceive of a patient requiring complete bed rest unless he shows grave symptoms. His symptoms are grave in more ways than one, but rarely does he or his friends understand it.

When the disease is active, conditions favorable for spread and destruction are present, because the bacilli are multiplying rapidly and gaining access to the body channels, the bronchi in case of the lung, in great numbers; and absorption of toxins, which is favored by exercise, interferes with the body's physiologic reaction and makes his tissues more susceptible to further bacillary infection. Cough at this time, too, is usually increased; and while its main purpose is to clear the bronchi of secretion it at the same time may force secretion downward into the finer air passages, now and then, causing plugging of a bronchiole and new infection. How infectious material may be forced down into the bronchi by cough may be suspected by the way that cough scatters opaque substances such as lipiodol outward into the lung fields.

Exercise increases the body's demand for oxygen; increases the circulation in the lung; increases the respiratory movements in order to oxygenate the blood; and increases cough and expectoration. While it is impossible to put the lung at rest like we would a diseased joint, yet we can preserve it from unnecessary movement.

From this discussion it must be evident that bed rest should begin at once on a diagnosis of active tuberculosis being made, and be continued as long as activity continues. If the physician is not going to treat the patient himself, he should put him to bed anyway and keep him there until arrangements for his proper care have been completed. If he is to be transferred to some other locality, the patient should be instructed to exert himself as little as possible until he has placed himself under the physician who is to guide him in his effort to regain health.

The physician who is to treat tuberculosis must have a clear conception of what he is attempting to do. Putting the patient at rest is simply a means to an end. It is to reduce the chances of the infection spreading; limit the danger of destruction of tissue; reduce toxemia to a minimum; and make the least possible demands upon the patient's energy.

Healing in tuberculosis is a matter of immunity. So the patient's strength must be built up as fast as possible. Aside from rest, then, he should be supplied with an ample diet made up of a wide variety of food. Meat, eggs, milk, vegetables, fruits, grains all have their place. At least a quart of milk, no matter what

*Read at the Fiftieth Annual Session of the Mid-South Post Graduate Medical Assembly, Memphis, Tenn., February 13-16, 1934.

DR. SEALE HARRIS
Gastro-intestinal and Nutritional Diseases
Diagnostician
2234 Highland Avenue
Birmingham, Alabama

the form, should be used. Cod liver oil is also good at this time. It is desirable to make a rapid increase in the patient's resistance and to bring his nutrition to the highest point of efficiency as the best assurance of a favorable turn of the disease.

If the patient is to be treated in the home, the physician, the patient and the friends must be made to understand that the disease is a chronic one which must be thought of in terms of months and years instead of days. Every preparation must be made for a long-drawn-out illness.

The patient must be wholly under the control of the physician. Since the physician must bear the responsibility of the outcome, he must direct the course to be followed. This requires of him the working out of a program definite to the minutest detail; the choice of the room for the patient, and its furnishing; the placing of the bed so as to gain for him the full benefit of the open air life; the clothing which he is to wear; the amount of sleep; the time to retire; the time to get up; the rest hour when no visitors are to be seen; the hours for visitors, the length of their stay, and even who may visit; diversions which are suited to the condition present; the kinds and amounts of food to be eaten and the time of meals; the baths allowable and who are to give them; rules for the regulation of cough and the care of the sputum; rules to prevent infecting others, particularly children if any are in the home; in fact, the physician must be in control of not only the patient, but only to a less degree he must be in control of the household. He must be the advisor, not only in regard to the conditions which bear directly upon recovery from tuberculosis but also in matters that are private and personal. The spirit of the old family physician must actuate him who would treat tuberculosis successfully.

Furthermore, the physician must maintain his own interest and secure the cooperation of the patient not for a week or a month, but for months, sometimes many months.

The patient must be kept in bed and at the same time be kept happy. One of the questions which will have to be decided sooner or later is whether or not the ordinary hygienic, dietetic rest regimen is going to be sufficient to bring about healing.

If, when the patient has become well established in his regimen, the symptoms abate and disappear, that must be taken as showing that the program is favorable. It does not, however, indicate that it is adequate. That fact often can not be established until several months have passed. It will be established the earlier, as a rule, the milder the infection. On the other hand, symptoms of activity may persist, no matter if the treatment is suited to the conditions, for there are times when no treatment known will promptly check the activity of the process. Patients may have long periods of activity and still come through with good health. One must only be sure that the treatment is correct and then persist in it.

A rise in temperature may be taken as indicating activity, but a normal temperature does not mean the absence of activity. A patient may be free from temperature a long time before he is ready to sit up or exert himself. Twenty-four hours' bed rest may be necessary for only six or eight weeks in patients with mild lesions; it may be necessary for many

months in those suffering from the more advanced disease.

When the activity is past then the patient must increase his time up very gradually; ten minutes a day until three hours have been attained is fast enough. When up one hour, one meal may be taken at the table: when up three hours both luncheon and dinner may be taken with the family. If possible I find it easiest to control the rest and easiest on the patient to have him continue his breakfast in bed until arrestment is near. When the patient is able to sit up for three hours he may start walking forward fifty feet farther each day until a half mile walk is attained. This may be attained while the patient is still resting twenty hours of the day. Time up and distance walked are to be gradually increased according to the condition of the lungs and the physical state of the patient. The rapidity of the increase in exercise is usually inverse to the length of time which was necessary to secure a quiescence of the disease. Not infrequently patients may be walking four or five miles and still resting fourteen to sixteen hours a day; or later, they may be working six and eight hours, and still be resting from twelve to fourteen hours a day.

When the time has arrived for starting the patient to get up; when exercise may safely start; and how rapidly it may be increased are questions of great importance to the cure of the patient. If begun too soon, and pushed too rapidly, the patient may show toxic effects where they were absent before; on the other hand, if the time is properly chosen and the exercise is well suited to the patient's condition, an increase in the patient's feeling of well being may follow the increase in exercise.

When the disease is sufficiently well along toward healing to stand moderate exercise without causing symptoms; then the patient may be given sun baths advantageously. These should never be given, however, while the process is active, nor should artificial light treatment be used until activity has passed. When ready to commence sun baths, the exposure should start with a minimum exposure both as to area and time. I usually have the patient start his baths in the midforenoon, before the sun's rays have reached their full strength. I start the bath with a three minutes' exposure and increase by that each day until a maximum of one-half to one hour has been attained. The patient's body should be naked with the exception of a pair of bathing trunks and a covering for the head. I think it much better to take the bath while the patient sits in a chair rather than while lying on a couch, because the air circulates about the patient so much better and makes the exchange between the body and the atmosphere so much more efficient.

Even patients with activity may be treated by diffuse sunshine, by allowing reflected light (day light

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as it is found in the room) to shine on the exposed body, but not the direct rays. This is applicable to fever cases as well as the nonfebrile.

The more accurately the physician is able to interpret the condition in the lungs, the more intelligently will he direct his patient. Therefore, he should keep close watch on the symptoms, examine the patient at least once in a month or six weeks and, if possible have films of the chest taken every three months for comparative study.

A definite program for managing the patient is just as necessary for the physician as the patient, for both must maintain interest in treatment so long as is necessary for bringing about healing.

Conduct of a Normal Labor Case*

W. T. PRIDE, M.D., F.A.C.S., A.B.G.O.
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This subject is time worn but like the weather is always with us. It is my observation and experience that doctors are taught a great deal of abnormal obstetrics but very little of the normal. The greater number of obstetrical cases are attended by the general practitioner, hence it behooves us who teach to give sound fundamental principles during the student days and as much practical work as possible during the internship. Really the seemingly small things

are often the most important.

The care of the patient in labor begins early in pregnancy for the proper care through this period has much to do with the character of the labor. The old custom of waiting for months before the doctor is called upon should be discouraged. The proper diet, exercise and the hygiene of pregnancy is your most valuable asset for a normal delivery.

There are a few things in this regard I shall mention as to diet—this should be normal but how many know what a normal diet is? There are three lines to follow—but fortunately all lead to the same fountain head.

First, an alkaline diet which consists principally of fruit and vegetables. Second, a calcium diet which is found in the first diet with a few things added, such as milk and cheese. Third, the best physiological chemist we have says if the expectant mother will eat the following, her baby will be perfect that is—something green, something starchy, some fruit and milk—these four things should be eaten each day—as you readily see this does not prohibit foods but properly mixed gives a balanced diet. Never less than eight glasses of water daily.

The best form of exercise is found in out-door walking. One to three miles per day—the above keeps the patient in good condition matures the child without over-growth of fat.

This brings us to our original subject the conduct of a labor case—needless to say everything should be as clean as possible if not sterile. Of course the hospital patient has this advantage—but with

*Read before the Northeast Mississippi 13 County Medical Society, Houlka, Miss., Sept. 12, 1934.

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some trouble a home can be satisfactorily set up—one of the great disadvantages of home obstetrics is the feather bed—fortunately there are not many of these sound sleepers left. If there should be one it is better to remove it and use the hard mattress or if any operative procedure is necessary use the kitchen table. I should like to remind you to forbid your patients in labor to take a tub bath—many infections have no doubt occurred in this way. The local preparation consist of a sponge or shower bath. The pubic hairs should be shaved followed by the usual sterile prep but do not allow any of the solution to flow into the birth canal. An enema is given unless too far advanced in labor. If the patient cannot void within a reasonable time the catheter is used but always instill 10% neo-silvol, one ounce after emptying the bladder.

With labor progressing frequent abdominal examinations are made to note the progress and listen to the fetal heart—when the head has descended until it is barely palpable usually dilatation is almost complete and this can be determined by careful vaginal examination. You notice I say vaginal rather than rectal for I believe if you are careful using sterile rubber gloves, sterile solution such as mercurochrome, retract the labia and insert the gloved fingers by sight there will be less danger of infection and certainly a better diagnosis than a rectal.

What about analgesia? For many hundreds of years nothing was used to allay the pains of childbirth, in fact, until the discovery of chloroform no definite drug was used. The first was introduced by Dr. Jas. Y. Simpson of Scotland, this caused much comment from the ministers of the Scotch Presbyterian Church who said it was a sacrilege as the Bible said a child must be born by the suffering of its mother—but Queen Victoria had Doctor Simpson to attend her with her last two children and knighted him for his method of relieving pain which was a few drops of chloroform. As the Queen could do no wrong this factional opposition ceased to exist. This was about 1847 nothing else was added until 1903 when Steinbuechel of Gratz used Scopolamine and morphine. Gauss published his first results in 1906 with twilight sleep "The Damerschlaf" of the Germans. This was not satisfactory as it was dangerous for the baby—but out of it grew our present method which is safe and helpful in many ways—whatever your method of analgesia this should be given as soon as labor is established and continued until delivery when anesthesia is added.

Usually when normal cases are spoken of we think of cephalic presentation or O.L.A. or O.R.A., but I have found from close study of eight hundred x-ray pictures taken before labor begins that 70.6% of all cephalics are either right or left posterior—these are private cases and closely studied and followed to the delivery when the diagnosis is confirmed. This being true I have placed these on the normal list.

For many years the occiput posterior was a serious thing as it caused long labors with its attendant head injuries and severe lacerations of the mother. The method now used shortens labor more than half and prevents injury to the baby—as mentioned above analgesia is always used, this prevents too powerful contractions and promotes dilatation. When dilatation is corrected by displacing the head and turning to

the anterior. It is only necessary to depress the handle of the forceps and push the head up very gently with this maneuver the body easily turns and the posterior fontanell is in the anterior position. Low forceps are then applied and delivery completed. At this time 1 c.c., of pituitrin is given by hypo. Manual rotation can be effectively used in a certain number of cases. Mucous is removed from the baby's mouth and baby is placed upon its right side.

All cases do not require an episiotomy but when necessary should be done before the head is too far down. All repairs should be done as soon as the placenta and membrane have been expressed, if the condition of the patient will permit. Hence fresh drapes should be placed and an anesthetic given. The proper suture material is chromic gut No. 2-40 day single. The repair should be in layers if at all severe. After completing the repair an antiseptic such as 5% mercurochrome should be instilled into the vagina—it probably would be timely to say something in regard to expressing the placenta. As you know the placenta is expelled by the loosening of its site due to the uterine contractions and probably also by blood clots forming—hence the early giving of some uterine contractant allowing five to fifteen minutes for this to have its effect before expressing. In the manipulation do not press downward and inward on the fundus but rather squeeze or pinch it. After the placenta is expressed and any necessary repairs—an abdominal binder is applied and within ½ hour one dram of fluid extract of ergot is given and the patient placed in bed with the head of the bed slightly elevated.

One may conduct a labor case perfectly and use every necessary care and then some assistant or subsequent attendant infect the patient. I have seen this happen several times. Practical nurses and some trained nurses will sponge the patient's vagina by beginning at the rectum or using the same sponge, go back and forth over rectum and vagina. Of course the method should be, using a sterile sponge, begin near the urethra, is carried down over the vagina and dropped and another sponge used in similar manner. This manner of cleansing should be used postpartum after urination and defecation and if there are stitches, mercurochrome 5% instilled with a medicine dropper. This is continued until all stitches have disappeared.

The patient is given a regular diet after the effects of the anesthetic wear off. In this connection I wish to bring before you one of the most important procedures in modern labor. This is the necessity of feeding the patient in long labors. We have conducted a series of experiments at the University of Tennessee upon what happens in the body of the patient during long labors. We had from time to time seen patients die suddenly after long labor upon administering an anesthetic. These deaths were attributed to "Heart Failure" or "Cardiac Thrombosis" so we first conducted our experiments with dogs by

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purging and starving them until this produced a profound acidosis practically every one of these dogs died when given an anesthetic of ether, chloroform or gas. But if the dog was given an intravenous of soda bicarb and blood brought back to normal no ill effects were observed. Occasionally an alkalosis was produced when they were given lactic acid 1% intravenously. We then routinely estimated the CO₂ on all patients in long labor and found this condition existed. But if these cases were fed during labor and given fluids the condition of the blood was about normal. I could not refrain from mentioning this to you for I believe it to be the important find in the past half century.

The patient is allowed to turn upon either side, on back-rest in four days, in chair on the 10th or 12th day—tub bath at three weeks and to see the doctor at the end of six weeks for final examination.

CONCLUSIONS

1. Patients should present themselves as soon as possible in early pregnancy to get instructions from the doctor.

2. Diet, exercise and the routine hygiene should be explained by the attending physician.

3. All preparations whether in home or hospital should be made early.

4. Analgesia and anesthesia should be routinely given.

5. Frequent abdominal examinations are made but few vaginal.

6. The patient should be fed and given fluids in all long labors.

7. Needless to say everything must be as sterile as possible.

The Benign Phase of Essential Hypertension with Cerebral Hemorrhage—The Cause of Death

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Since the days when the sphygmomanometer was introduced, the etiology and significance of high blood pressure has occupied much space in the field of medical investigation and speculation. Sir Clifford Allbutt first called attention to a group of cases to whom he applied the name "hyperpiesia," (in his own words) "a malady in which at or toward middle life, blood pressure rises excessively, a malady having a course of its own, and deserving the name of a disease. Of hyperpiesia I have never offered an explanation or anything more than a conjecture. I have been content to distinguish it as a clinical series from recognized forms of Bright's Disease." In this country, the term "essential hypertension" is usually applied to the above described condition.

The dividing line between the benign and malignant phases of essential hypertension is not definite. Both phases are the results of a primary sclerosis of arterioles with secondary pathology in all organs, especially selecting the kidneys, brain and heart. The most accepted and delicate clinical differential sign is the appearance of a hypertensive neuro-retinopathy in the malignant phase. The benign phase is the more common one, (90%), runs a long course (2-3 decades sometimes) and terminates, usually, in

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heartfailure (60%), apoplexy (15%) or renal failure (80%) Northwestern Mutual statistics report apoplexy 21%. The most spectacular development is, of course, cerebral hemorrhage.

To understand the mechanism of cerebral hemorrhage, one must go back to some of the more plausible, though not proved, theories of the pathological processes involved in essential hypertension.

I. Heredity.

The defect inherited an inferior vascular system which either reacts excessively to ordinary environmental stimuli or degenerates from inherent weakness.

II. Hypersensitive Individuals.

Vasomotor instability or hyperirritability resulting in frequent angiospasm, ischemia, necrosis of vessel walls and parenchyma supplied. In such an area, hemorrhagic infarctions and diapedesis through vessel walls produce small hemorrhagic areas which, if there are many, may become confluent to form massive hemorrhages.

III. Though not possible in normal vessels, sudden high intravascular tension may produce rupture in a weakly supported, atheromatous vessel.

In the words of Globus and Strauss (Arch. Neurology and Psychiatry 18:215; 1927) discussing massive cerebral hemorrhages. "Anatomical and clinical observations support the conclusion that spontaneous cerebral hemorrhage is a terminal phase of a sequence of events which have their beginning in a generalized or somewhat localized disease of the cerebral vessels and which results in the closure of one or more such vessels in a given circumscribed area. This leads to an ischemic zone and consequent focal encephalomalacia." In such an area where the blood vessel is diseased and the surrounding tissue softened, sudden increased vascular tension can produce rupture and hemorrhage.

Degenerative changes are not necessarily confined to the terminal arterioles. The cerebral vessels most often affected are those forming the circle of Willis and the small branches of the middle cerebral artery to the basal ganglia, (especially the lenticulostriate). Any cerebral artery may rupture and the extravasation may attain any size or shape depending upon the degree of encephalomalacia surrounding the offending vessel. Autopsy findings in a typical case with hemorrhage into the ventricle will show the surface of the brain often normal or possibly less definite convolutions. The ventricle will be markedly dilated, contain fresh clotted blood. Part of the area occupied by the clotted blood will be hollowed out cerebral tissue where escaping blood has torn apart the normal brain substance. There will be ischemia surrounding hemorrhagic area with oedema. The remainder of the brain will show focal areas of encephalomalacia. Arterioles will show areas of atheromatous degeneration with fragmentation of the intima, hypertrophy of the media with resulting loss of elasticity of walls and narrowing of the lumen. Lesions from former, not fatal attacks, may be found in any portion of the brain, possibly, even in the other ventricles.

The actual offending vessel may be found. It may be one in the wall of the ventricle or it may be one some distance away from which a path of softening led close to the ventricle and the escaping blood

ploughed through the brain substance to reach the ventricle.

CASE REPORT

Mrs. R. L. Suber, age 58, white, female, entered the hospital May 23, 1934, in semi-comatose condition. During one week before entrance the patient had complained of frequent severe headaches associated with transient attacks of weakness, numbness, trembling and mental confusion. Twenty-four hours previous, a sudden attack had occurred with complete loss of consciousness. A semi-conscious state persisted. History of hypertension for two years. Physical examination revealed the following:

Temperature 102 degrees, pulse 100-120, B.P. 184-90; pupils sluggish but reacting; rigidity of neck; cardiac displacement of apex downward and outward with no arrhythmia, sounds of fair quality, accentuation of second aortic sound; edge of liver palpable; bladder distension midway to the umbilicus; knee jerks absent, Kernig positive, no Babinski, mild pilledema but no hypertensive neuro-retinopathy.

Laboratory findings:

Urine negative. Blood showed no anemia, mild leukocytosis (10,250), normal differential count, urea nitrogen 25.2, creatinine 1.96, sugar 142. Spinal fluid under pressure, bloody, cell count W.B.C. 21, R.B.C. 12,000 cu.m.m., globulin 2 plus, Wassermann negative.

Immediate procedures included spinal puncture. 50 c.c. of 50% glucose intravenously, catheterization, Sodium Luminal for complete rest.

COURSE WHILE IN HOSPITAL

Under general treatment including: (1) feeding by Levine tube, (2) careful regulation of fluid intake and elimination (restriction of fluid intake to 3000 cc.), (3) catheterization, (4) frequent changing of position, (5) sedatives (Sodium Luminal) as needed, and more specific, (6) 50 cc. of 50 percent glucose intravenously daily so long as definite evidence of increased intracranial pressure persisted.

Under such management, the general condition of the patient would improve until a sudden drop in blood pressure (on the 3rd day to 110-78), tachycardia, temperature elevation and increased lethargy indicated further extension of the hemorrhagic process. An encephalitic type of lethargy persisted associated with pseudo-bulbar paralysis indicated by inability to articulate, inability to swallow and thick tongue. No atrophy.

Spinal puncture on the 6th day: fluid still under pressure, xanthochromic. On 7th day, 230 r.b.c. Spinal fluid on 11th day, clear. At this time, indications of improvement in increased irritability and reaction to external stimuli, and in lessened rigidity of neck were noted. A cardiac arrhythmia with prema-

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ture contractions which developed about this time was associated with mild oedema of feet and ankles and some moisture in the base of the lungs.

It was 30 days following entrance before the patient was able to talk and to resume feeding by mouth. Flaccidity of the right side of face and right arm were present. On the 33rd day, return of lethargy, sudden elevation of temperature with development of pyelitis, spasticity on the left side of body and coarse tremor of hands occurred, following which the patient expired within two days. Terminal pneumonia.

TREATMENT OF ESSENTIAL HYPERTENSION

It has never been fully decided whether the hypertension is the cause or the result of the arterial lesions. It is obvious, however, that after both processes are established, the hypertension becomes a compensatory phenomenon. Therefore, the object of therapy is not the reduction of blood pressure, but is the prevention of and the relief from the symptoms of paroxysmal rises in intravascular tension.

Such an objective will include (1) prevention of avoidable environmental factors. Therefore, adequate rest, general hygienic measures, psychotherapy. (2) Prevention of stimuli reaching the vasomotor centers, i.e. sedatives, such as bromides and barbituric acid derivatives. (3) Vasodilators, most valuable are the xanthine derivatives, i.e., Diuretin or Theobromine Sodium Salicylate; Theocalcium (a double salt: Calcium Theobromine and Calcium Salicylate); Theocin, (synthetic) Theophyllin; Euphyllin or Metaphyllin (amino phyllin).

Calcium salts, thiocyanates, benzyl benzoate, iodides, have all been recommended. Cholera hydrate with its sedative action and direct relaxing effect upon smooth muscle fibers has been used for a long

time.

One of the nicest responses to treatment is obtained through the intelligent use of endocrine therapy in the hypertension beginning in women about the time of menopause. Thyroid extract, Antuitrin "S", Theelin, are given according to the type of endocrine imbalance presented with the principle in mind of stimulating or replacing irregular ovarian secretion.

Recently, the intravenous use of Mg.S.O.4 has been recommended. Permanent benefit has not been confirmed by other investigators.

When the syndrome of hypertensive encephalopathy of Fahr is presented, spinal puncture as a therapeutic agent gives more rapid relief of symptoms than any other one procedure. Cushing, many years ago showed the relation between high blood pressure and intracranial pressure. Increased intracranial pressure causes anemia of medullary centers and further vasoconstriction and further elevation in blood pressure. With the appearance of the hypertensive encephalopathy the disease has progressed to an advanced stage. Venesection, though frowned upon, in general, has given many patients marked relief of symptoms of failing myocardium as well as deranged cerebral circulation.

The intravenous use of hypertonic glucose may be the only procedure required in treatment of an acute attack of hypertensive encephalopathy. It combines a dehydration phenomena to combat oedema of the brain, nutritive support to a damaged myocardium, diuretic action upon kidney function. No one method of therapy is universally accepted. Treatment varies according to the extent of the pathological processes and to the type of symptoms presented.

DIAGNOSIS

If an adequate history can be obtained, it will be



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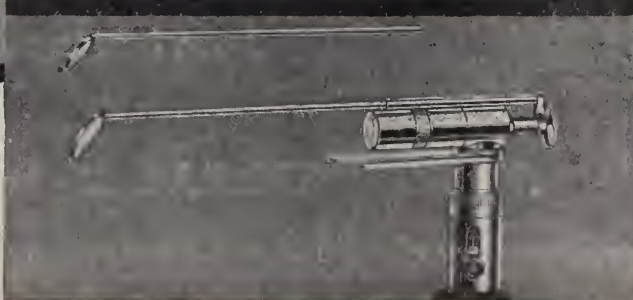
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found, probably, that the patient has had high blood pressure for many years. Recurrences and periods of freedom from symptoms attributable to the nervous system will have been noted. Most common are headache, vertigo, tinnitus aurium, and irritability with frequent emotional outbursts.

Cerebral hemorrhage may occur without warning. Often there will have been premonitory symptoms for a few hours to a week before the final catastrophe. These may include attacks of syncope with transient aphasia, mental confusion, monoplegia, and hemiplegia which last for a few minutes, only. Finally an attack occurs with slowly fading consciousness from which the patient can not be aroused. An elevated blood pressure, a full bounding pulse (unless the patient is in shock), evidences of increased intracranial pressure will be found. With Hemorrhage into the ventricles the spinal fluid will contain RBCs, will be under increased pressure, may show a moderate increase in globulin in direct proportion to number of RBCs, and after a few days, the fluid above the RBCs will be Xanthochromic. (If no further hemorrhage, xanthochromia disappears in about two weeks.) The extent and type of paralysis will depend upon the location of the lesion.

Encephalitis Lethargica has an insidious onset. Symptoms of headache, vertigo, ocular palsy, fever show a more gradual progression in contrast to a series of transient attacks before a final catastrophe. The drowsiness (if present) came on gradually; the patient can usually be aroused. The drowsiness is more marked during the day; the patient may have insomnia. The spinal fluid will be approximately normal—slight increase in lymphocytes, globulin—often a marked increase in glucose.

DIFFERENTIAL DIGNOSIS FROM BRAIN TUMOR

Differential diagnosis of brain tumor from cerebral hemorrhage is not always easy, unfortunately, the classical signs of brain tumor: headache, vomiting without nausea or relation to food and an optic neuritis are not always present. However, a brain tumor which has progressed to the stage of coma will, probably, have shown a gradual progression of the following symptoms: Slow mental action, defective concentration, steadily progressive general mental failure. Unless there has been hemorrhage into a tumor, there will be no r.b.c's in spinal fluid. Increase in pressure, increase in lymphocytes, increase in globulin will probably be found.

A pachymeningitis appears in patients of about the same age and may cause confusion. Pachymeningitis, however, usually accompanies a chronic degenerative disease, especially general paresis, chronic alcoholism, and senile dementia. The patient has often complained of pain, especially in the shoulder. Blood will not be found in the spinal fluid unless the lesion includes a slowly forming subdural hematoma which penetrates the external dura. Positive Wasserman is of considerable help. Both glucose and globulin content of spinal fluid are raised. (Unless an acute, active form of meningitis is present.)

TREATMENT

The treatment of any cerebral hemorrhage consists of an (1) attempt to prevent hemorrhage, (2) the lessening of cerebral irritation, (3) the accelera-

tion of resolution of the hemorrhagic lesion, and (4) general care of the patient to prevent complications in other organs of the body. Therefore, spinal puncture is of therapeutic as well as of diagnostic value. Sedatives will be required. Hypertonic solutions—intravenously—especially 50% glucose are given. Some form of iodides are usually advocated. General care will include, usually, feeding by Levine tube; regulation of fluid intake and output, regulation of elimination, catheterization, frequent turning of the patient, prevention of contractures.

Chronic Alcoholism

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HISTORY

The noted author, the late Elbert Hubbard, once said "I hate drunkardness yet I pity the drunkard."

The various archaeological societies show that researches in alcoholism were being carried on five thousand years before Christ. Banqueting in Egypt was a religious festival. Pliney recites that on many occasions kings offered up thousands of vessels of beer and wine to the gods and a village named Quede was the Milwaukee of those days. Thousands of years before Christ, history records, on a tomb in Egypt that the deceased had built his first sanitarium for the care of alcoholics. Galen, the Grecian physician details the remedies used for drunkardness. Herodotus, Plutarch and Diordorus wrote splendidly of the drink habit and claimed that it could be cured. At the beginning of the Christian Era, St. John Chrysostom and Ulphin, the Roman jurists, referred to alcoholism and the necessity of its being treated. In the Third Century, a king of Spain had laws enacted to lessen punishment for crime, committed under the influence of liquor, claiming that such a party was irresponsible and by the way, right here, may I remark that he was far ahead of the lawyers, who wrote our criminal code of this day, which does not excuse anyone, when drunk, for any crime, whereas we as medical scientists know that many such persons are really and truly mentally irresponsible. The penal code of France and of many German states, during the Sixteenth Century, recognized the alcoholic addict as being irresponsible. Dr. Benjamin Rush of Philadelphia, in 1790, supported the same theory by sound logic. Cabanis of Paris, Salvator of Moscow, Esquirel and Kramer of Berlin, in the early Eighties, wrote intelligently on alcoholism. In 1840 the Washingtonian Wave swept this Country and grew to over five million strong—these were along similar lines to prohibition. Dr. J. E. Turner, founder of the Binghampton Asylum of New York for alcoholic inebriates, at first, met with much opposition, even from the medical profession—this was in 1864.

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In the year 1893 my late friend, Dr. T. D. Crothers, published a volume called "The Disease of Inebriety"—a master piece of those days. The term inebriety means a craving for either drugs or liquor to a point of habitual drunkardness.

DEFINITION

Up to the present time, all authors and writers, on the subject of alcoholic addition, have defined and classified it as a distinct entity—a disease unto itself. But after forty-three years of observation and study of alcoholic addiction by myself and associates, during which time we have treated approximately eight thousand patients, we have come to the conclusion that it is a condition or symptom complex, characterized by the excessive use or abuse of alcohol, principally in the form of whisky and beer and depending upon some deficiency or pathology in the central nervous system or internal glandular secretions, or physical system.

ETIOLOGY

This condition or symptom complex is caused by deficiency or disease, especially in the Central nervous system or internal glandular system. It is a condition we find frequently in the different personality make-ups such as the constitutional psychopath, the schizophrenic personality, etc., as well as resulting from organic pathology such as chronic encephalitis, neuro-syphilis and the like.

PATHOLOGY

Once alcoholism is established to the point of abuse, we find that degenerative changes soon develop in the blood vessels, the brain cells, and es-

pecially are the kidneys, liver, pancreas and spleen prone to degenerative changes—the heart muscle, too, suffers the destructive action, in fact, **alcohol in excess is damaging to all protoplasm.** Our attention, in the study of these cases, has especially been attracted to our laboratory reports of blood and urine. Very many of these patients come to us showing a high white cell count. About five percent of them show a high blood sugar and five or ten percent sugar in urine, which persists for about ten days after withdrawal of alcohol, when it disappears without any special treatment—is it the result of an alcoholic pancreatitis or the result of the whiskey being converted into sugar in the human system, causing an artificial hyperglycaemia? And fully fifty percent of these patients show a trace or more of albumin and quantities of granular and fine granular casts with much mucus in their urine. These findings confirm the affinity alcohol has especially for the kidney and pancreas.

SYMPTOMS

In acute cases, as well as chronic, the odor of the breath is characteristic—in these former, the dilated pupils, flushed face, hot skin in some, cold and clammy in others, with rapid and full pulse, thick speech and various moods, some happy, some quarrelsome, tell the tale only too well. It is in the chronic cases that an exhaustive examination and study should be made in every instance. In fact, some cases are presented to the neuro-psychiatrist for treatment by the family or family physician that are obscure and are never suspected of being alcoholic addicts yet in delving into their history, we find that

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this agent is the cause of the disturbance in the patient. The alcoholic addict is always defective in judgment, more or less untruthful, irritable, has great loss of will power, mental capacity is much impaired and defective, is easily fatigued and his conversation is fleeting and superficial on any and all subjects—complete loss of memory exists for days in some and is defective in others. These unfortunates are suspicious and especially jealous toward the opposite sex or their own partner, usually the result of lowered sex potency—many develop a paranoid type of reaction—various paresthesias exist over the surface of the body, headache, hearing, sight, taste, smell, and touch are impaired—many and every form of tremors are noticeable, especially of lips, tongue and hands. There is a slight congestion of the surface of the entire body, due to an involvement of the vaso-motor system but it is more marked on the face. Insomnia and nervousness are characteristic. It is often said that a man when drunk will display his real character—this is not true. The display of meanness, vulgarity and brutality from alcohol, in one, who when sober is gentle and kind, is certainly not showing up his predominant traits. The judgment being destroyed when drunk, allows the lower animal instincts to assert themselves. In the chronic alcoholic the voice becomes hoarse and cracky from the congestion of the mucus membrane and very often the characteristic “whisky cough” develops. Cramps in the muscles, numbness and so called rheumatic pains are strongly significant of secret drinking and such cases often go unrecognized—due to the unusual cunningness on the part of the patient—even, the doctors are baffled as to the correct diagnosis—in many instances friends believe certain parties are total abstainers when as a matter of fact they are heavy night drinkers.

PROGNOSIS

This should be good under ordinary conditions, if no pathology causing it has been allowed to advance too far before treatment is begun.

TREATMENT

All cases of alcoholism or alcoholic addiction are institutional **entirely** and these cases should be placed in sanitariums properly equipped, operated and managed from the neuro-psychiatric standpoint. Dr. Mott of Columbia University referred always to a case of alcoholism as one having a fractured brain and nervous system, needing the splint and bandage of a sanitarium. The plan followed by us consists of (First) support of the patient for several days with his customary amount of liquor and then its gradual withdrawal. (Second) drug medication, especially intravenously, avoiding Hyoscine or Scopolamine and the Barbitol Group. (Third) hydrotherapy. (Fourth) psychotherapy. (Fifth) forced feeding and proper diet when indicated in cases having complications—of course fresh air and sunshine are never over-looked.

Each case is individual and treated according to indications. Pathology can best be treated in a sanitarium and these conditions are always caused by pathology. We do not approve of the so-called “farm method” used in some European countries even though supervised by medical men.

In conclusion you will note that I said nothing regarding delirium tremens, hallucinosis, pseudo

paresis or pseudo paranola, as these are the sequela and usually result from want of or improper treatment.

Malaria Control With Special Reference To Treatment

GEORGE E. RILEY, M.D., C.P.H.

Director, Malaria Control, Mississippi State Board of Health

Malaria is a febrile disease due to protozoan blood parasites of the genus *Plasmodium* which are transferred to man by infected mosquitoes of the genus *Anopheles*.

Malaria has been endemically known since 400 B. C. W. H. S. Jones in his *Malaria and Greek History* and other historians have claimed malaria as the cause of the decline of the Greek and other ancient civilizations.

Sir William Osler said of malaria, “No infection except, perhaps, tuberculosis compares with it in the extent of its distribution or its importance as a killing and disabling disease.”

Sir Malcolm Watson in speaking of malaria in India says, “Malaria is a scourge far greater than either plague or cholera and it maims as well as kills and causes more sickness, misery, and death than any other single disease.” He further states that, “It is directly responsible for an enormous number of deaths from diarrhea, dysentery, nephritis, and other diseases due to germs which infect because vitality has been lowered by malaria.”

A review of the comparative incidence of cases and deaths in Mississippi during the past four or five years shows that these statements are still applicable. For the past five years, the yearly average shows that malaria heads the case incidence of disease in this state with influenza, gonorrhea, syphilis, and dysentery of all kinds ranking next in the order named. While malaria is not considered as a fatal or killing disease, the average for the past four years shows that it ranked seventh as the cause of death, being excelled only by heart disease, nephritis, tuberculosis, cancer, influenza, and dysentery of all types.

The graph of mortality rates for the past 20 years shows that malaria, as other diseases, exhibits a cyclic trend. It occurs in six-year waves. While in 1931 we predicted an increase for 1933 and a peak for 1934, the increase in 1933 far exceeded our estimate for 1934. This increase is general, not only in Mississippi, but throughout the entire malaria belt.

In 1929, the Bureau of Malaria Control adopted a new policy in its malaria control program. This program was directed to screening, draining, reporting, education, and research. You are already familiar with the first two parts of this program, and it is to the last three that I should like to direct your at-

CHARLES D. BLASSINGAME, M.D.

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Memphis, Tennessee

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tention.

The reporting of malaria, in a great many instances, was made in a very haphazard manner. Quite a high percentage of the physicians reported their malaria cases month after month in multiples of 5, 10, or 25, and some few in multiples of 50. This haphazard and incorrect reporting has been detrimental to the State and especially to some localized sections which have less malaria than almost any section in the South. Hardly a week goes by that we are not asked by some outside individual or corporation if it is safe to locate in some certain section of Mississippi because of the malaria hazard.

We know the true malaria conditions of the various sections of the State, but this information has been gained largely from expensive surveys. The reports made by physicians will be our only criterion of conditions in the future, as surveys are financial impossibilities. We sincerely hope that these reports will reflect the true incidence of malaria. National and even international publicity is given to the malaria incidence of the State. It is our desire to give the true picture of our problem and to utilize the known facts in the control program.

Under the educational program prior to 1929, the State Board of Health publicized the fact that Quinine would cure malaria. It went further than that; it told the amount to take and the time and manner of taking it. This policy has been discontinued, and the first problem of the new educational program was to counteract that part of the previous educational program which had advocated self diagnosis and self treatment of malaria.

For the past six years, an attempt has been made by newspaper articles, motion picture shows, and other educational methods to discourage self diagnosis and self treatment, and to encourage proper blood diagnosis and adequate treatment under the care of a regular practising physician. The lay public is taught that malaria is a disease caused by a definite blood parasite and is not just a rundown feeling with aching, fever, and chills. The dangers of self diagnosis and self treatment are pointed out and the people are urged to place themselves under the care of their family physician for blood diagnosis and treatment. Therefore we hope the Mississippi physicians will exercise even greater precision in making a diagnosis of malaria.

Research work was planned, but due to lack of time and financial support, the plans were temporarily abandoned. Instead of this work, an attempt has been made to keep in close touch with the best research workers of the world, to secure information especially with reference to new discoveries or improvements in the treatment of malaria, and to pass this information on to the profession of the State for their consideration. Information about the kinds or methods of treatment is never given to the lay public.

In keeping with this policy, we wrote every physician in the State a letter on May 26, 1932 in regard to the "new regimen of treatment for malaria" as outlined by Colonel Sinton of the British Indian Medical Service. This treatment consists of two mixtures: Mixture "A" is sodium bicarbonate 60 grains, sodium citrate 40 grains, calcium carbonate (or chloride) 3 grains, and water 1 ounce. Mixture "Q" is quinine

sulphate 10 grains in solution with citric acid 30 grains, magnesium sulphate 60 grains, and water 1 ounce. This treatment briefly summarized is:

1. Initial purge of calomel and magnesium sulphate.
2. Twenty-three doses of one ounce of Mixture "A".
3. Twenty-one doses of one ounce each of Mixture "Q". Given $\frac{1}{2}$ hour after Mixture "A".
4. Seven doses plasmochin (1-3 grain after supper) in cases of *P. falciparum*.
5. Alkaline drinks, vegetables, and carbohydrates.
6. Iron and arsenic tonic.
7. Time—one week.

The optimum quinine action is at a concentration in the blood of about 1 in 200,000. Ten grains quinine sulphate will give this concentration, each dose yielding 7.35 grains of the alkaloid as compared with 5.8 grains for the bisulphate and 7.2 grains for the dihydrochloride in the same dosage.

Quinine is dissolved in the stomach, precipitated in the amorphous state by the alkaline secretions of the small intestines, and absorbed here in that form.

In malaria, the hydrochloric acid of the stomach is decreased or absent. In order to insure proper solution, quinine sulphate should be prescribed in solution. In malaria, there is already a tendency to acidosis and this tendency is increased by mineral acids. An organic acid (citric) should be employed as it not only aids solution, but is excreted as an alkali and decreases the tendency to acidosis. The alkaline mixture recommended by Sinton ensures precipitation of the alkaloid and flushes the mucus from the wall of the small intestines. Alkalies, then, are useful to stop vomiting and to aid retention, pre-

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ciptation, and absorption of quinine.

Fletcher, Sinton, Gosh and others, after detailed study, decided that quinine given by intramuscular injection is absorbed more slowly than when given orally. It has been said, by Krauss, I believe, that 90 per cent of the intravenous dose of quinine leaves the peripheral blood in three minutes. Quinine given orally is excreted over a period of twenty-four hours.

Plasmochin has been used for several years and because of its toxicity was coming into disrepute. Many cases of severe poisoning and quite a number of authentic deaths were reported during the early days when large doses were given. These toxic symptoms consisted of cyanosis, severe abdominal pain, and rise in temperature. Often an attack resembling black water fever developed, accompanied by hemolysis of the red blood cells, jaundice, and black urine containing methaemoglobin.

Finally, Barber and Komp, Hackett, some medical officers of the United Fruit Company, and others reported that only very small and non-toxic doses were required to sterilize the gametocytes of *P. falciparum*. Doses of more than 1-3 grain per day almost always cause some toxic symptom. The dose which we accept is sufficient and non-toxic and will be stated in connection with our recommendations.

Upon my return to Mississippi in July, 1933, after a year's study of parasitology, I was anxious to learn what results you had observed in the use of Atabrine, in this state. A questionnaire was prepared and sent to 150 representative practising physicians in 30 of our most malarious counties. Briefly summarized, this survey showed that Atabrine alone was used in 1,322 cases, of which 881 or 67 per cent were diagnosed by positive blood smears; in 1,220 or 93 per cent of the cases atabrine was reported as efficacious cure.

Sixty per cent of those answering the questionnaire report that, "Atabrine is as effective or more effective and less toxic than Quinine." The remainder do not express an opinion because of "limited experience."

Subsequent personal interviews with more than 200 physicians in every section of the State representing roughly 4,000 to 5,000 cases have received uniformly good reports of Atabrine as to efficacy and low toxicity.

The literature on the use of Atabrine has been so enormous that time has not permitted a complete review. I should like, however, to call your attention to two or three of the most recent articles on this drug.

An excellent paper was read before the Public Health Section of the State Medical Association in May, 1934 by Dr. A. M. Wynne, Bolivar County, reporting a large number of controlled cases of malaria treated by Atabrine, Atabrine and Plasmochin, Quinine by injection and orally in capsules and in solution. His conclusions are favorable to Atabrine, especially as to the required length of time and small number of relapses as compared with Quinine. His investigations this summer confirm his findings of last year.

Nine cases of blackwater fever successfully treated with Atabrine have been brought to our attention from the Delta this year.

Some Mississippi physicians have reported the intravenous use of Atabrine in comatose cases with good results. Thus far, we consider the intravenous use

of Atabrine in the experimental stage.

Colonel Charles F. Craig, Medical Corps, U. S. Army, Retired, and Professor of Tropical Medicine, Tulane University, says, "In summing up the data that are at present available regarding this new drug (Atabrine), one would appear to be justified in stating that it is by far the most efficient drug known in the treatment of malaria so far as the prevention of relapses is concerned. There have been no reports of dangerous toxic symptoms and the usual period of treatment of five days with 0.1 gram three times daily seems to be sufficient in practically every case."

McNabb and Swartz, conclude that "No toxic effects or contraindications to the use of Atabrine were noted."

Atabrine is quickly absorbed and slowly eliminated. This fact may, in part, account for the low percentage of relapses. Hoops states that the relapse rate dropped from 50 per cent in Quinine-treated cases to less than 5 per cent in those treated with Atabrine. Komp and Clark in the American Journal of Tropical Medicine, September, 1934, pp. 391-396, disagree with Hoops on his rates. They found that Quinine-treated control group had 31.8 per cent relapse rate as compared to 18.6 per cent in the Atabrine treated cases. They agree with Hoops and other investigators on the following points in favor of the use of Atabrine: (1) Fever is usually reduced as quickly as with quinine, (2) The treatment is short, simple, and effective (1½ grain tablet three times a day for five days only as against a prolonged course of Quinine), and (3) The drug is not depressing, is well tolerated even by pregnant women, young children, and in black water fever.

In regard to the treatment of malaria, I should like to quote five points from the Third General Report of the Malaria Commission of the League of Nations published in 1933, and should like to call attention to the fact that these quotations are reprinted by the Bureau for Increasing the Use of Quinine:

"Modern practice demands that the subject shall be dealt with separately, according to the

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species of parasite with which the patient is infected."

"It is not good practice to treat attacks of malaria in the acute stage with more than one of the specific drugs available."

"Plasmoquine should not be used in the treatment of acute attacks of any form of malaria."

"It is a general consensus of opinion that for treating primary attacks of *P. falciparum*, Atabrine is very much more effective than Quinine or any other remedy heretofore known."

"In the treatment of benign tertian malaria in the doses usually recommended, both Quinine and Atabrine and invariably efficacious."

Some facts called to our attention by Mississippi physicians are that (1) Atabrine does not usually prevent the second chill; (2) The parasites (asexual) are not destroyed until after about 9 doses of Atabrine; (3) In some rare instances, fever may continue though gradually decreasing until the fifth day; and, (4) In extremely rare cases, 7 days of treatment (21 tablets) are required for cure; and, (5) Taking Atabrine after meals may be a factor in preventing the yellow discoloration of the skin (27 cases cited).

From the experiences and recommendations of outstanding workers in South and Central America, Europe, India, Africa, the Phillipine Islands, the West Indies, the United States, and more than 200 Mississippi physicians and the Malaria Commission of the League of Nations, we feel perfectly safe in recommending to the medical profession of this State in the treatment of malaria that:

(1) A thick blood smear be made during the sweating stage.

(2) There is no drug that will serve as an in-

dividual Prophylaxis.

(3) Not more than one antimalarial drug be used during the acute stage of any form of malaria.

(4) Plasmochin should not be used in the acute attack of any form of malaria.

(5) Plasmochin and Atabrine not to be given together, as Atabrine increases the toxicity of Plasmochin.

(6) Attention be given to the fact that rest in bed and diet are important aids to recovery.

(7) Bile salts or some drug be used to induce the flow of bile, as bile is a good solvent for Quinine and aids in elimination.

(8) In the case of *P. Vivax* (Tertian):

A primary case of a first relapse be treated at once with either:

a. Atabrine 1½ grains (0.1 gram) three times daily after meals for 5-7 days (15-21 doses), or

b. Quinine sulphate in solution with citric acid be given according to Sinton's method of treatment as already outlined.

A second or third relapse, occurring usually from 7-10 months after the primary attack, be allowed, if possible, to pass through three or four febrile paroxysms and more if feasible, before beginning specific therapy, and then be treated with 5 grains Quinine (in solution) daily for 15 days. (At this period, this small daily dose cures fever and other clinical symptoms and causes the parasites to disappear from the peripheral blood; but not so large as to prevent the continued gain of immunity or tolerance by the patient.)

(9) In the case of *P. falciparum* (Aestivo-autumnal):

The primary attack be treated as outlined for

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primary attacks of *P. vivax*; that is, with Atabrine or Quinine in solution and that after this treatment has been completed, 1-6 grain of Plasmochin (simplex) be given after breakfast and after supper (1-3 grain daily) for either 5-7 days, or twice a week for two months.

The relapse, usually occurring not more than 15 days after recovery from the primary attack be treated exactly as if a primary attack; however, if, for example, Atabrine was used in treating the primary attack, Quinine should be used in treating the relapse, and vice versa.

Year	STATE				PRENTISS COUNTY			
	Case	No.	D'th	Cases	Case	No.	D'th	Cases
	No.		Rate	per			Rate	per
				Mal.				Mal.
				Death				Death
1929	91045	316	15.8	288	1084	6	31.4	181
1930	49458	281	13.9	176	668	1	5.2	668
1931	35747	211	10.4	169	418	0		
1932	36133	324	15.7	112	388	2	10.2	194
1933	72505	695	33.5	104	705	10	25.3	71
Total	284888	1827			3263	19		
5 yr. ave.	56978	365.4	17.9	156	653	3.9	16.4	172
1934*	39654	321		124	607	0		

*1st 8 months of 1934.

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On Southern Medical Program

The following are Memphis physicians on the program of the Southern Medical Association which meets at San Antonio on November 13-16:

Drs. Rosamond, E. C. Ellett, Richmond McKinney, W. Likely Simpson, E. C. Mitchell, John Shea, Giles A. Coors, John C. Ayres, L. C. Sanders, H. C. Schmeisser, Max D. Lindsay, J. P. Henry, Willis Campbell, H. G. Rudner, W. T. Pride, chairman of the section on obstetrics; R. A. Hennessy, Casa Collier, S. N. Brinson, Eustice Semmes, F. Thomas Mitchell, B. F. Turner, H. D. Gray, J. Cash King, C. H. Heacock, J. I. Mitchell, George Livermore, W. T. Black, C. K. Lewis.

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DETACHMENT OF THE RETINA

Dr. E. C. Ellett reported two cases of Detachment of the Retina.

Case 1. Mrs. P., age 58, was seen in November, 1933 with a visual disturbance in the right eye of five weeks duration and without apparent cause. At first black floaters were noticed before the eye, then dark spots and flashes of light with failing vision. The condition had been diagnosed as retinal detachment before he saw her. Removal of some teeth had helped in the beginning, but for five days the vision had been like it was when seen, that is moving objects to temporal side only. The left eye was normal with vision 6-6 with glasses.

In the right eye the retina was detached over the upper half of the fundus from 11 to 2 and reaching almost to the disk. No tear was seen. A few days rest in bed resulted in a subsidence of the detachment, which receded about 2 disk diameters from the disk, and appeared in two unequal lobes. A tear was now seen in the lower lobe, at 10 o'clock, 3 disk diameters from the ora serrata. The retina was best seen there with plus 8, the central lobe being best seen with plus 12. On November 6, she was operated under local anesthesia. The superior rectus muscle was divided and the whole upper half of the ball exposed. A circular area was cultured with the contact method of diathermy (Larsen method) ten applications being made with current of 65 milliamperes. The central area of the sclera was trephined and the superior rectus muscle and conjunctiva replaced. Two days later a good red reflex was present all over the fundus. She left the city in two weeks. In September, 1934 she had vision of 6-7.5 with glasses. The retina was in place everywhere, there were a few floaters and the coagulated areas showed like disseminated choroiditis. The field before operation consisted of an island in the temporal field extending from the 15 degree circle to the 80 degree circle and about 30 degrees above and below the horizontal. After operation the field was fully restored with only slight contraction.

Case II. Mrs. S., aged about 66, has been under observation for many years and has always had good eyes. On June 9, 1934 she was refracted and had vision O. D. 6-6 with - .50 cylinder Axis 125. The left eye is normal. On July 11 there was a sudden failure of vision in the right eye without apparent cause, except that she had for some time been using some vigorous eye exercises as described in a book on psychology she was reading. The vision in the eye was moving objects due to a detachment up and out from 12

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to 9 with a tear at 11, 3 or 4 diameters from the ora. The detachment came within 2 disk diameters of the disk. She was seen two days after the detachment occurred, and after 3 days in bed, without effect on the detachment, she was operated under local anesthesia. The detached area was surrounded by contact applications of diathermy, and then a ring of micro-pins placed around the region of the tear. The sclera was then punctured and the conjunctiva replaced. The muscles were drawn aside, not divided. On October 1, vision in O. D. with plus .50 cylinder, Axis 15 was 6-6 partly. The field, before operation was wholly lost in the lower inner quadrant and including the center. After operation the field was fully restored. The coagulated spots can be plainly seen and the retina is in place.

GLIOMA OF THE RETINA

He also reported J. A. a boy of 14 months who was seen in July 1932. Six months before when he was 8 months of age the parents noticed a difficulty in vision and yellowish reflexes from both eyes. The eyes were sometimes red. The family history was of interest. The paternal grandmother died of cancer of the uterus, a paternal aunt of cancer of the antrum, the paternal grandfather of a malignant tumor of the neck, and a brother had a cranial injury at birth. The right eye showed a normal iris and active pupil, the left a fixed pupil with atrophy of the iris, tension plus in both eyes, and a white reflex through both pupils due to a vascular mass filling about 2-3 of the

vitreous chamber. Glioma was diagnosed and enucleation advised. Nothing was done, the parents deciding that death was probably a better result.

The left eye began to swell a few months after the visit, and finally burst. The swelling subsided and the eye shrunk. Six months later, that is about a year ago, the right eye began to swell and has continued to enlarge, otherwise the child seems well.

Right eye. A large mass protruded between the lids. The lids are red and stretched. The orbit is full of the growth, which distends the ball. The cornea has ruptured, is replaced by a scab. Slight enlargement of the cervical glands, none of the pre-auricular, nose freely open.

Left eye. The ball is white and shrunken, the anterior chamber is deep, cornea clear except a superficial calcareous band across the center. Pupil wide, lens opaque.

Radium was suggested to the right eye. There is no evidence of metastasis.

ENUCLEATION WITH LIGATION OF CENTRAL ARTERY

Dr D. H. Anthony reported Mr. R. H. S., age 26, whose left eye was stuck on August 3, 1934 by a nail which sprung back while it was being driven into the ceiling. The eye bled slightly and had been painful since the accident.

On examination he found a ruptured cornea and prolapsed iris. He cocaineized the eye immediately and an iridectomy was done. The cornea healed im-

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mediately, the anterior chamber filled with blood and and stayed full of blood.

On October 1, the eye was enucleated in the ordinary way and the optic nerve was caught with a nearly right angly curved hemostat about half an inch back of the eye ball. The optic nerve was severed between the eye and the curved hemostat attached to the optic nerve. Two long nasal speculums were opened in Tenon's capsule and the orbital fat and extraocular muscles were held back from the region of the cut optic nerve. The optic nerve was grasped with an Allison forcep and the curved hemostat released from the optic nerve. A number 1 chrome catgut ligature was slipped over the cut stump of the optic nerve and tightened by a slip knot, and a second ordinary knot was tied against the slip knot. The Allison forcep was removed from the cut optic nerve stump. There was no bleeding from the cut nerve at any time during the operation. A 16 millimeter glass ball was inserted and Tenon's capsule was closed with a purse string suture of number 0 chrome catgut and the conjunctiva was closed with three silk interrupted sutures. An ordinary bandage was supplied.

There was a little discomfort or soreness attached to the ligating of the optic nerve and the postoperative reaction looks to be the same as from an ordinary enucleation.

PERISINUS ABSCESS—DEVELOPING A MARKED MENINGISMUS. OPERATION AND RECOVERY

C. D. Blassingame, M.D., October 10, 1934 reported Mrs. F. B. B. About 23 years of age, who was admitted into the Baptist Hospital on October 3, 1934, complaining of pain in and behind the right ear. The pain was most severe at the mastoid tip. The present attack started six days previously, with ear ache, which increased gradually until she entered the Hospital. The aching radiated over the right side of the head. She had had a chronic discharging ear since early childhood. Last winter there were a number of attacks in which ear ache was followed by a purulent discharge.

Examination of the ear disclosed a drum red and swollen but not bulging. There was a small central perforation with very little discharge. The discharge had a very foul odor. The posterior meatal wall was quite red throughout. Very marked tenderness was present over the tip. The temperature was normal.

X-ray picture of the mastoids showed both sides to be the sclerotic type with no cell development over the lateral sinuses. A direct smear from the ear showed no pus cells, but a mixture of bacteria. Blood count was: Red cells 3380000, white cells 9800, polys 76, and small lymphocytes 21. Urine was negative. Wassermann was negative. A wide incision was made in the ear drum and ice caps applied. Two days later the W.B.C. had increased to 11050, polys to 84 and her headache had grown steadily worse. A marked swelling of the posterior meatal wall had appeared not unlike a large furuncle.

She had developed temperature 103, pulse 90. On the third day, her headache was worse and there was slight stiffness of the neck. A cell count of the spinal fluid was made and reported to be 122, globulin 1 plus. Differential: Polys 92% and 8% lymphs.

This report from the laboratory was delayed for

one day, and at that time, her headache had grown to be hysterical, there was marked rigidity of the neck and positive Kernig. She had had rigors through the night and complained of intense soreness all over the body. There was marked nausea and vomiting.

Operation was done immediately after this report. After the patient was under the anesthetic, Dr. Murphy did a Toby Ayers test. It showed no occlusion of the lateral sinus. There were large tip cells filled with pus which had ruptured through, causing the swelling of the posterior meatal wall. The bone was very dense surrounding the antrum. A small amount of pus occupied the antrum and middle ear. An area of the bony plate covering the lateral sinus was very porous, red and soft. Removal of this disclosed a large abscess cavity filled with creamy pus. The lateral sinus wall was depressed half the diameter of the lumen, of the sinus, and its appearance was grayish white. After a large area of bone was removed from the sinus, it was noted that the sinus wall outside of the abscess area was edematous and dark in color. A slight pulsation was present in the sinus, otherwise it had every appearance of being a thrombosed sinus. We would have treated it as a thrombosed sinus except for the two factors; the slight pulsation and the negative Quackenstat test made by Dr. Murphy. Of the two factors, the Quackenstat test was the most dependable, because of the uncertainty connected with the detection of a very slight pulsation of a sinus, especially when the pulsation from the unthrombosed part might be transmitted to the thrombosed area.

We chose to treat it as a patent sinus and uncovered the sinus widely. Because of the chronicity of the process, a radical was performed on the middle ear and the cavity was dressed with iodoform gauze, leaving the whole wound open. At the end of 24 hours, all her symptoms had decreased to a marked degree. She was relaxed, the rigidity of the neck was much less, she had only a slight headache and the temperature had come down to normal. Today at the end of 72 hours, the temperature has remained normal. The rigidity has almost disappeared. The nausea and vomiting has stopped. No headache and her appearance is very good.

Dr. John J. Shea reported a case of mixed cell sarcoma.

Mr. W. B., age 58, was referred for an opinion as to the advisability of removing his tonsils.

History: For the past six months, the patient has generally lost ground. The right side of the throat has remained swollen and tender and the right cervical glands have gradually enlarged.

Past History: The patient has at times been treated for slight hemorrhages from the kidneys. Family history negative.

Examination: The right tonsil was displaced inward by a swelling that included the tonsil fossae and

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the posterior pillar. The left tonsil was normal. Palpation of the enlarged cervical gland revealed it to be firm, encapsulated and partially fixed in its position. The gland measured an inch by three quarters. Removal of the tonsils was advised against and instead a biopsy of the gland was requested, for the diagnosis was thought to be lympho-sarcoma. Five radon seeds were implanted into the gland and five into the mass forming the posterior pillar of the tonsil.

Progress: The gland has slowly receded and the patient has picked up in weight.

Dr. John J. Shea reported a case of aberrant thyroid.

Mrs. H. H. was referred by Dr. Frank Smythe for a biopsy of a cone shaped mass at the base of the tongue.

Examination: A section showed it to be thyroid tissue and the removal of the specimen for biopsy by electric coagulation destroyed the upper third of the tumor. Into the lower two-thirds, I planted four radon seeds.

Progress: The tumor mass melted away very rapidly leaving a smooth surface with a light elevation at its lowest border.

Dr. John J. Shea reported a case of cellulitis of the neck following a peri-tonsillar abscess.

Miss N. Z., age 24, presented herself with an acute inflammation of the right side of the neck following a peri-tonsillar abscess previously opened by a general surgeon.

Examination: A partially healed incision of the

right anterior tonsillar pillar was clean and not discharging. The pharynx was bulging over the third vertebra. The lateral wall below the tonsil was swollen and oedematous. The larynx was slightly displaced to the left and the epiglottis was oedematous. The right side of the neck was swollen and a marked tenderness could be elicited along the great vessels down to the clavicle.

Operations: An external approach was made along the anterior border of the sternocleidomastoid muscle and the pus evacuated. A tube was sewed in place for drainage. Three days later, the pharyngeal swelling pointed and opened spontaneously at the level of the fourth vertebra. The patient progressed favorably and the tube was removed at the end of two weeks. Forty-eight hours later, a swelling appeared along the posterior border of the muscle, which was opened, evacuating one-half an ounce of pus and a tube was inserted. This last pocket drained dry in three days and the patient made an uneventful recovery.

Comment: Undoubtedly, this was a peri-tonsillar abscess, which ruptured behind and below and descended downwards. The incision of the general surgeon never entered the abscess cavity for it was made for an anterior rupture of a peri-tonsillar abscess.

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The Problem of Appendicitis*

W. H. ANDERSON, M.D.
Booneville, Miss.

About fifty years ago Lister and Pasteur ushered in the age of discovery in medicine. This marked the beginning of curative and preventive medicine. Curative medicine took the lead and has held the inside track. Preventive medicine and preventive surgery are now the order of the day. Scientific medicine has made more progress for the last fifty years than in all time past. Medical discoveries have been piled up one upon the other. The discoverer has been magnified and glorified and hailed as the medical savior of man, and rightly so. He has been the promoter so to speak, in medical science. Fifty years ago the germ world was discovered and like the New America the geographical lines are just now settled. Really the true era of application in medical science is just beginning. The discoverer thought and dreamed and experimented. Like a bunch of men hunting in the woods, one jumps the deer, gets all the meat and the glory while others are left in obscurity. But in the artful application of medical truths each man will be rewarded according to his vigilance and his skill. "An idea that is historically essential—that itself makes that epoch—is only in a limited sense the property of him to whose lot it falls to patent it. It belongs to the time as a whole and influences all thinkers without their knowing it."—Spengler. The new is just off the new world, we are settling down to realities to live in a nation with the varnish off. The era of artful application of known medical truths is upon us. It is time to hesitate and catch up. The advanced guards have ascertained the lay of the bacterial land, but the private practitioner must pitch the battle and win the victory. Ten years ago we thought malaria was about whipped but we now know that it is one of the South's major problems. When we discovered the mischief making appendix in its full setting we thought that this source of human casualties would soon be eliminated, but yet this major enemy of the human abdomen claims its thousands each year. The death rate from appendicitis can be reduced to a minimum if we could and would apply what is now known. I am not bringing you copied statements from the medical books, giving you a page of references, nor a volume of case reports. What I shall say is just my conclusions as a general practitioner of sixteen years experience with six years residence in a small hospital. These observations have been made mostly on my own cases playing the role of practitioner and surgeon in a small town. What I have read, seen and heard of others have been utilized or tried in my cases of course.

The first observation that I wish to make is that Doctor Time is the most successful surgeon operating for acute appendicitis up to this date. In select cases there may be a time to delay operation, but we should not have any of this class. The average case of appendicitis should be diagnosed and operated upon within six hours of the onset. But we do not reach

this goal even by six times six. Then how and where must we make the attack on the alarming death rate from appendicitis? First, the rank and file of the medical profession must learn how to diagnose the average case of appendicitis, which is possible. He must learn how to handle the case until it reaches the surgeon. The laity generally must have this information, enough of it to know when to call the doctor. And thirdly, the surgeon must know how to do the best for the patient taking into consideration the time that has elapsed since the onset and the condition of the patient.

We would like to know more of the cause of appendicitis. We know some of the exciting bacteria, but just why they take hold when they do, we do not know. Some think the general condition of the patient plays the big role, others the anatomical make up of the appendix. Bob Taylor of Tennessee told of an applicant for the principalship of a country school. The trustees asked him every question they could think of and he answered perfectly as he started out the door very confident, he was recalled and asked if he taught the earth was round or flat. He was not sure which answer they desired and he stated that he was prepared to teach either system. So I believe that both may play some role. It certainly seems that we have more appendicitis following an epidemic of flu, colds and tonsillitis.

It is quite certain that appendicitis is largely a disease of civilized man. Whether the strenuous life of the civilized man or the type of food plays the greater role has not yet been positively established. Generally speaking the appendix is horn shape. When the horn is reversed we may expect the attack to be more hazardous. Personally we believe that appendicitis is very largely a local disease, that its beginning is more often local than blood borne.

But theorizing on the cause of appendicitis is not lowering the death rate. The train of symptoms in the average case of appendicitis is quite well established. The average case of appendicitis kills the average man.

Pain is the first symptom of appendicitis. It is constant. It is like a 'possum when it takes hold it does not turn loose, not until it decides to leave. And like the thief, it often comes at night. The most uncommon place for it in the beginning is over the appendix. It may be diffuse over the abdomen, it may circle the umbilicus, but more commonly it is in the epigastrium. It is colicky, cramping in character. It makes the patient draw up and it makes him roll. It feels like a weight. It is of much shorter duration in the baby or child than in the adult.

Nausea and vomiting may follow the pain within a short while, one or two hours, maybe later. It may be absent altogether. When present its intensity is often a good index to the severity of the pathological condition in the appendix.

Local rigidity and tenderness on pressure over the

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appendix is the next major symptom in order and the most important of all. The kind, tender, and sympathetic touch of the well trained finger of the truly honest surgeon is worth more than all the other symptoms put together and more than a half dozen reports from a half dozen laboratories. Above all it must be an honest hand. It must not be heavy, rude and unsympathetic, a jabber for money. Lay your brotherly hand on the abdomen, repeat the Golden Rule, let the unvarnished truth take its course and fear not a mistaken diagnosis. Learn to stop like a trained bird dog on a point, don't flush the birds, don't scare the muscles. Your fingers will be true to you if you will be true to your patient. If the patient is on his face the diagnosing hand becomes a hot plate to the acute appendix, provided the appendix is free to fall. With the patient on his back there is an impression of solidity, fixation, quietness under the hand. The chronic, wormy appendix may be "squishy," gaseous, doughy. Follow your first impression like the spelling of a doubtful word is usually the best rule. Learn to look kindly, tenderly and sympathetically for a sick appendix through your well kept fingers.

Fever is another major symptom. But not in the beginning and not often a high fever in the average case. The patient should be diagnosed and operated before the fever begins. One degree of fever at ten to twelve hours is about the rule for the average case. The pulse rate in proportion unless the gastric symptoms are accentuated when the pulse may be slow, may not be above normal.

The increase in the total leukocyte count is pretty

constant after the rise of the temperature. It may be absent in very severe cases, which may indicate a lack of resistance on the part of the patient. The differential count may be helpful in this type of case. Ninety percent neutrophils indicating a severe infection. Simon's septic factor is well worth consideration in the differential count, which means a decrease of eosinophile corresponding to the increase of neutrophils. Ninety neutrophils for a small child is more than for the middle aged adult. Blood counts are helpful if accurate. Be sure they are made right before you even consider one. If you do not have a free stick, if you leave the skin wet with alcohol, if your pipette is a little wet, your count is worthless.

These are the major symptoms of the average case of acute appendicitis. There are other conditions from which it must be differentiated. Gall stones, renal colic, intestinal obstruction, perforated viscera are among the most common. In intestinal obstruction the onset is more sudden usually, the rigidity, board like, the patient hesitates to move, and the history is important as in every case of serious sickness. But the important thing is to count every constant acute abdominal pain that lasts even one hour appendicitis until it can be proved otherwise. Individualize in every patient. Lay down your major symptoms preceded by the history and then compare these with other conditions it might be. Be on the alert. Examine your patient.

If you even think your patient has appendicitis withhold purgatives and all food by mouth. You would not think of giving dynamite to children, but

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you act quite as foolish when you give calomel and castor oil in acute appendicitis. You have heard this one thousand times. Yes, but like the preacher who preached the same sermon every Sunday and sent word to his indignant deacons that he would continue until they put into practice his admonition.

It is not enough for the general practitioner to know the symptoms of appendicitis and to be vigilant eternal, but the laity must know in a general way the symptoms of appendicitis. They must at least know NOT to give purgatives for abdominal pain. They must know to call the doctor. They must know, not to wait very long for a constant pain to subside before they call or carry the patient to the doctor. Even the laity should know that the appendix normally is half way between the superior anterior spine and the umbilicus on the right, and he should know that it makes but little difference where the pain is in the beginning, except that it is more common in the epigastrium. The general practitioner must first learn the symptoms of appendicitis and how to handle the case until it is turned over to the surgeon and then he must teach his clientele. Country medical societies should appoint one of their number to write articles each week for the country weekly. At least this would be a good way to educate the laity along safe medical lines. The country weekly reaches the folks who need to know. The paper is usually willing to carry this service without charge.

After the diagnosis then what? Well, there is no medical treatment. The surgical treatment and the post operative depends, on the number of hours from the onset, the severity, the condition of the patient. Let Dr. Time and each individual patient consult. In many sections of the United States patients have to travel one to two hundred miles yet for an operation for appendicitis. As long as this is true there will be delayed operations and a high death rate. What is the answer to this problem? The small hospital in the small town. A country surgeon in a small hospital within six hours of the onset is much to be preferred to a Mayo in the finest hospital in the world three days later. The cities and even some of the smaller towns have good surgeons, but the death rate still soars. The layman must be intelligent enough to call the doctor early, the doctor must be able to diagnose the case, the surgeon must have a chance to operate early, even before the patient has fever or leukocytosis.

The small hospital must be carried out to the commercial firing lines, to every county, or two or three counties in the United States to take care of the acute appendix and many other emergencies. Its entrance must be made available to the charity patient and to the person of small means. The national, state and municipality aided by church and philanthropy must take care of the hospital bill for the actual charity. Some means must be provided whereby the middle class will not have to wait to get in the hospital when the acute appendix nabs him. Group insurance is worth consideration, especially for the hospital. The small hospital will not only serve well for ready accessibility for the acute appendix, but through its post graduate work will be brought to the medical profession and the nursing profession as well and it will be a teaching center for the laity.

The operative procedure for the average case is

simple. Ether anesthesia, which is about fool proof, right rectus incision or probably through the right rectus having first located the point of greatest tenderness so that the appendix will be handy, or an oblique in some cases, don't get married to an incision. Do the operation and get out, no free pus, no drainage, a dry dressing, enough codeine and morphine to keep the patient comfortable for three or four days and let him alone, dress the patient on the fourth day, if indication, otherwise the eighth day, take out stitches and let him go home. No purgatives before operation and none after unless a little Milk of Magnesia, Milnol, or Cascara is needed about the fourth or fifth day. Tea, coffee, broth, buttermilk mainly, the first four days, go light on fruit juices if you do not want to be worried with a gassy patient. In a case with appendiceal abscess, four to eight days standing, do the operation under local if possible, one percent novocaine with adrenalin. If the patient is very nervous a few whiffs of chloroform, or gas oxygen may be used. Make the incision to suit the abscess, make it just below and in a manner to give the best drainage. Do not make this incision too short or too long. If it is too long the gut will push out and block the drainage; if too short, the pus will not flow well. Clip out the appendix if it can not be done without too much trauma. If you take care where and how you have made your incision and have a good anaesthetist, it will not be necessary to leave one appendix in hundred. Tie the stump, ONE TIME, no inversion, tie bleeders if you have them, put in glove drain with iodoform gauze, put down in the cavity left by the discharge of the pus. Leave the incision wide open, do not take a single stitch. Put in duodenal tube before the patient leaves the table, give one half gallon of saline with two and one-half percent glucose under the skin, make the patient comfortable.

It may be advisable to give glucose by vein, but it is usually safer given with saline under the skin. Give the patient water to drink. It will come back through the tube, but the patient will be greatly benefited, keeps down the pangs of thirst and helps to keep up the morale of the patient. Give no food by mouth for two to four days, keep up the saline and glucose. Remove the drain in from two to four days. Keep patient in Fowler position, the lower abdomen will tolerate more pus than the upper. Again you may have a patient of three to four days standing, general peritonitis, no pus formation, rather no localization of it. This is the type in which it is some times wise to delay operation. Be governed by the shock, by the distension, by the individual patient. If you do operate, proceed as in the abscess case, leave in the iodoform and do not take any stitches. If you do not operate, put patient to bed in Fowler's position, use hot applications over abdomen, especially over area of appendix until the mass forms.

To summarize: The death rate in acute appen-

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dititis is entirely too high. The era of application is upon us. The challenge is to the rank and file of the medical profession. Eternal vigilance in artful application will surely be rewarded. Dr. Time is the chief surgeon in the acute appendix. The general practitioner is the watch dog of the human abdomen. He must know his sick appendix. He must warn the public the danger of delay, the hazard of the strong purgative, the insult it is to the sick appendix. The constant abdominal pain that lasts even one hour should be considered appendicitis by the laity and the family physician should be called, and he should so consider it until he can prove it otherwise. The small hospital must be established out on the commercial firing lines throughout the United States, in every one to three or four counties. It can be a great means in educating the medical and nursing profession and in turn the laity. County medical societies should educate the laity to act intelligently by means of the country weekly, their greatest educational medium. Time waits for no man. If you squander your time in acute appendicitis, the tide of peritonitis will carry him to his grave. Every dog has his day. The artful application of the known medical truths by the general practitioner is what the world needs most today. Glory and honor to him. He will see that DR. TIME has a chance at the acute appendix.

Book Review

Heart disease continues to head the list for deaths from natural causes. This disease should be of the greatest interest to every practitioner and to every surgeon. We need to study the human heart with renewed energy. "Practical Talks on Heart Disease" by Dr. George L. Carlisle would certainly be helpful to every one. It is published by Charles C. Thomas and the price is only two dollars. The book is dedicated to three friends, Drs. Richard C. Cabot, Boston, Clarence M. Grigsby, Dallas, J. H. Black, Dallas. This book gives the "heart" on heart disease in the most practical, readable and interesting manner. It discusses the importance of history taking, the symptoms, the technic of determining the different heart murmurs and their significance. His practical discussion on the examination of the heart is unusually good. The discussion on the Arteriosclerotic Heart Disease should be read by every one. You will be especially interested in his discussion of cardia neurosis. He, of course, discusses the rheumatic heart, acute and chronic, angina pectoris and coronary occlusion. He outlines the most practical treatment for each one in turn. The busy practitioner can not afford to be without this practical and condensed dissertation on heart disease, the King of Human Disease. The price, only two dollars. Charles C. Thomas, Springfield, Illinois—Baltimore, Maryland.

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The Mississippi State Hospital Association

LEON S. LIPPINCOTT, M.D., Editor—Vicksburg
KATE LOM LORD, R.N., Associate Editor—Hattiesburg

QUESTIONNAIRE

On October 22, there was sent to the hospitals of Mississippi from the office of the secretary, a letter and questionnaire from the Joint Committee representing the American, Catholic and Protestant Hospital Associations. The letter was as follows:

The results obtained by the Joint Committee during the past year prompted the Trustees of the American, Catholic, and Protestant hospital associations to authorize continuance of the Committee.

The Committee realizes the need for more adequate data regarding local conditions and the value of a close relationship with the state and sectional association. The Joint Committee solicits your prompt attention to the enclosed questionnaire and respectfully requests that the information be compiled and returned within a few days. Your cooperation will result in definite benefits to your hospital.

Just as soon as the data have been compiled it is the intention of the Joint Committee to proceed as follows:

1. The respective state hospital associations will be requested to submit sufficient data to the State Relief Commissions that will convince the Commissions of the absolute necessity of their making an appeal to the Federal Emergency Relief Administration for an additional appropriation to cover the cost for hospitalization of those persons now receiving federal relief in the form of food, clothing, and shelter.

2. That the officials of the respective state hospital associations make known to the Joint Committee the results of the state associations meeting with the State Relief Commissions, and upon completion of the compilation of the results, the Joint Committee will then present to the Federal Emergency Relief Administration the facts regarding the need for appropriations for the payment of service rendered by the voluntary hospitals to those persons receiving relief in the form of food, clothing, and shelter.

In addition to the information requested in the questionnaire it will undoubtedly be necessary for the Joint Committee to have the active support of the Senators and Congressmen from each state. The Joint Committee will at a later date make a request of certain of the hospitals to contact with their representatives to Congress, in order that they may be fully acquainted with the situation as it exists in the district which they represent.

When and if such request is received by you, an immediate follow-through will strengthen the work of the Committee.

Without your assistance the efforts of the Joint Committee and the state hospital associations can not meet with success. We are depending upon you to give this assistance.

Very truly yours,

ROBERT JOLLY
Pres., American Hospital Assn.

REV. ALPHONSE M. SCHWITALLA, S. J.
Pres., Catholic Hospital Assn.
CHARLES C. JARRELL, D.D.
Pres., American Protestant Hospital Assn.

The Joint Committee is a result of the recognition of the necessity of unity of action by all of the hospitals of the country. It is made up of recognized hospital leaders as follows:

For the American Hospital Association: Robert Jolly, President, American Hospital Association, Houston, Texas; Nathaniel W. Faxon, M.D., Rochester, N. Y.; Frederic A. Washburn, M.D., Boston, Mass.; Rev. Maurice F. Griffin, Cleveland, Ohio; Winford H. Smith, M.D., Baltimore, Md.; Rochard P. Borden, Fall River Mass.; Guy J. Clark, Cleveland, Ohio; F. O. Bates, Charleston, S. C.; A. J. Lomas, M. D., Baltimore, Md.

For The Catholic Hospital Association; Rev. Alphonse M. Schwitalla, S. J., President, Catholic Hospital Association, St. Louis, Mo.; M. Ray Kneiff, Executive Secretary, Catholic Hospital Association, St. Louis, Mo.; Hon. William F. Montevan, National Catholic Welfare Council, Washington, D. C.

For the Protestant Hospital Association: Charles C. Jarrell, D.D., President, Protestant Hospital Association, General Secretary, Hospital Board, Methodist Episcopal Church South, Atlanta, Ga.; Charles S. Pitcher, Philadelphia, Pa.; John H. Olsen, Prince Bay, N. Y.

The joint committee is particularly anxious to have the information asked in the questionnaire in order to support the claims of the hospitals for consideration on any project that comes before the Federal Government, and the same information will be useful to our Association in presenting claims on behalf of our hospitals of Mississippi for consideration before state, county or city authorities.

It has been felt by many of our hospitals that the Federal Relief Administration should provide for hospitalization of persons receiving federal relief in other forms. The Joint Committee, representing a majority of the hospitals of the country and with contacts in Washington, can do more than any individuals or other organizations to obtain the necessary rulings or legislation.

It is remembered with gratitude by many of our Mississippi Hospitals that it was through the active efforts of the Joint Committee last year that a ruling was obtained from the General Counsel of the National Recovery Administration that hospitals not engaged in carrying on a trade or industry do not come within the purview of the National Recovery Act so far as to come under the requirements of a code of fair competition. It is generally believed that it was due to this ruling that many hospitals have been able to continue open.

With the above in mind, it is difficult to understand why so many of our Mississippi hospitals re-

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fuse their cooperation and ignore all requests for information which can only be for their own advantage. To date (Nov. 5) the following hospitals have replied: Anderson Infirmary; Biloxi Hospital; Charleston Hospital; Clarksdale Hospital; Columbus Hospital; Corinth Hospital; Fite Hospital; James Z. George Memorial Hospital; Gilmore Sanitarium; Grenada General Hospital; Geo. C. Hixon Memorial Hospital; Holmes County Community Hospital; Houston Hospital; Ivy Hospital; King's Daughters' Hospital, Greenville; Laurel General Hospital; McComb Infirmary; McRae Hospital; Macon Hospital; Matty Hersee Hospital; Methodist Hospital; Mississippi State Charity Hospital, Vicksburg; Newton Infirmary; Oxford Hospital; Dr. W. C. Pool's Sanitarium; Poplarville Hospital; Dr. F. G. Riley's Hospital; Tylertown Hospital; Vicksburg Sanitarium; Water Valley Hospital.

The secretary of our Association can only report to the Joint Committee for those hospitals interested.

HOSPITAL STAFF MEETINGS

Anderson Infirmary, Meridian—First Friday of each month, 6:30 p. m.

Clarksdale Hospital, Clarksdale—Second Wednesday of each month, 1:30 p. m.

Grenada Hospital, Grenada—Third Tuesday of each month, 6:30 p. m.

Geo. C. Hixon Memorial Hospital, Electric Mills—First Monday of each month, 7:30 p. m.

Houston Hospital, Houston—Last Thursday of each month, 7:00 p. m.

Vicksburg Hospital, Vicksburg—Second Thursday of each month, 6:30 p. m.

Vicksburg Sanitarium, Vicksburg—The tenth or during the week of the tenth each month, 6:30 p. m.

REPORT OF THE SECRETARY*

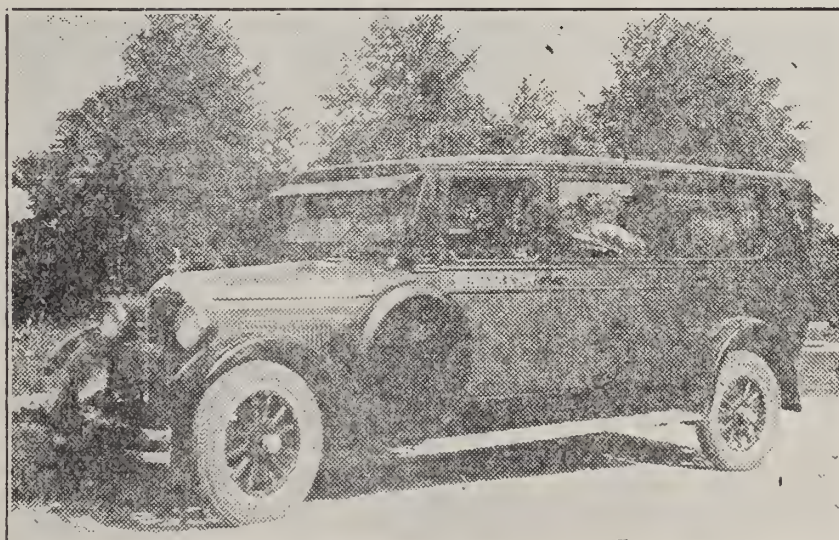
The past year of our Hospital Association has brought numerous duties to your secretary. It is believed that some worthwhile accomplishments are shown.

Last summer, when codes were being set up under the NRA, it was felt that many of our hospitals could not attempt to live up to the "blanket code" without closing their doors. The situation of our Mississippi hospitals was presented to the American Hospital Association, and other Southern State Hospital Associations were urged to add their statements of facts and conditions. Fortunately through the efficient efforts of a joint committee of the American, Catholic and Protestant Hospital Associations, a ruling was secured from the general counsel of the National Recovery Administration that hospitals not engaged in carrying on a trade or industry did not come within the purview of the National Industrial Recovery Act so far as to come under the requirements of a code of fair competition. Our members were kept informed during this period. Some 700 letters, telegrams and copies of correspondence were used in

*Presented at the Fifth Annual Session of the Mississippi State Hospital Association, Natchez, May 7, 1934.

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this effort.

For the first time printed transactions of our Association were edited and distributed.

Your Association, in cooperation with the Committee of the Mississippi State Medical Association on Community Hospital Legislation, distributed some 1400 letters and pieces of printed matter to the Governor, the members of the legislature and to the newspapers of the state in favor of the community hospital bill.

In favor of a lien law for the protection of hospitals, doctors and nurses in caring for persons injured in automobile accidents, 2700 letters and telegrams were sent to members of our association, the members of the Mississippi State Medical Association and to others.

Numerous other matters considered to be of importance to our members have required attention. In all some 6,000 pieces of mail have been dispatched from your secretary's office during the year. These figures are presented to you for your information

You are to be the judge of the value of this work.

In accordance with a recommendation of last year, as approved by this Association, your secretary has opened a file of information on each institutional and personal member, as a central information bureau. To secure pertinent information, questionnaires were sent to all institutional members at the beginning of the year. More replies were received than a year ago—44 of 52 hospitals—before April 1st. A few have sent in replies since that time in response to repeated requests. There are still some who have ignored all requests.

In an attempt to secure legislation or to improve the status of our hospitals, complete statistics of actual condition are most important. We cannot accomplish much when we are unable to state with authority what our hospitals are actually doing. It would seem that all members would realize the benefits to themselves as well as to the Association as a whole, of prompt and complete replies to such requests for information.

Some of the information obtained is given below. Much of it furnishes food for thought.

1933-43 MEMBER HOSPITALS

	Beds	Bassi- nets	Aver. No. Pat.	Total Pat.	State Aid	Taxes Paid	Patients Per Cent					Visits
							Paid in Full	Paid in Part	Pay Paid None	Adm. as Char.	Out Clinic	
1.	9	2		380	No	Yes	12.5	47.5	40	0	No	
2.	12	3		208	Yes	Yes	62	8	3	27	No	
3.	14	0		286	No	No					Yes	100
4.	18	2	5	245	Yes	Yes	25	35	15	25	No	
5.	20	2	6	332	Yes	Yes	41	16	13	30	No	
6.	20	2	3	170	No	No	5	40	25	30	Yes	1,250
7.	20	3		139	Yes	No	60	11	4	25	No	
8.	22	5	6	417	No						No	
9.	22	4			Yes	Yes					No	
10.	24	2		289	No	Yes	76			24	Yes	
11.	25	4	12	314	Yes	Yes					No	
12.	25	2	6	415	Yes	No	63	6	6	25	No	
13.	25	6		385	Yes	Yes	26	7	15	52	No	
14.	25	2	5	340	No	Yes	75	15	8	2	No	
15.	25	3		298	Yes	Yes	25	50	12.5	12.5	Yes	55
16.	25	6	8	436	No	Yes	60	20	15	5	No	
17.	25	2		241	Yes	Yes	24	48	3	25	No	

26-50 BEDS

1.	26	2		953	Yes	Yes	50	30	15	5	No	
2.	27	2	13	459	Yes	Yes	50	12.5	12.5	25	Yes	
3.	28	4	14	384	Yes	Yes	43	9	11	37	Yes	9,125
4.	30	3	11	451	Yes	No	75	3	4	18	No	
5.	30	5	11	746	Yes	Yes	70	10	10	10	No	
6.	35	2	6	380	Yes	No	40	25	15	20	No	
7.	35	3	18.4	682	Yes	Yes	23	52	10	15	Yes	6,811
8.	35	5	16	459	Yes	Yes	44	34	8	14	Yes	
9.	38	12	10	675	Yes	Yes	35	35	10	20	No	
10.	40	2	14	540	Yes	Yes	70	10		20	No	
11.	45	5	9	615	No	Yes	63	26	6	4	Yes	842
12.	50	8		612	Yes	No	50	15	10	25	Yes	
13.	50	6	10	397	Yes	Yes	50	14	17	19	Yes	7,735
14.	50	7	15	583	No	Yes	65	20	5	10	No	
15.	50	6	14	1,028	No	Yes	70	10	10	10	Yes	75
16.	50	7	6	390	Yes	No	69	4	13	14	No	
17.	50	1	7	363	Yes	No	70	10		20	No	

51-100 BEDS

1.	52	5	15	660	No	Yes	60	35	5	0	Yes	
2.	55	12	15	794	No	Yes	80	10	10	0		
3.	56	12	20.5	1,560	No	Yes	75	15	10	0	No	
4.	60	5	9	322	Yes	No	25	15	10	50	Yes	7,000
5.	60	6	19	1,007	Yes	No	50			50	No	
6.	60	15	15	576	No	Yes	70	10	10	10	Yes	
7.	75	6	32	1,405	No	Yes	30	50	15	5	Yes	18,349
8.	75	12	17	1,162	No	No					Yes	2,589
9.	100	14	40	1,553	No	No	80	4	1	15	No	

SUMMARY

Forty-three member hospitals have a total of 1,618 beds (smallest 9 beds; largest 100 beds), average 38 beds; and a total of 217 bassinets (smallest number, none, largest number 15), average 5 bassinets.

Thirty-two hospitals with 1,366 beds had an average daily number of patients of 408, an average of 13 patients per hospital and a bed occupancy per cent of 29.9. It is interesting to note that for 1932, 25 member hospitals had an average of 12.7 per hospital and a bed occupancy of 29.0 per cent, a difference of less than one per cent in each case.

Forty-two hospitals with 1,596 beds had 22,649 patients during the year, an average of 539 per hospital.

Twenty-six hospitals received state aid in 1933. Only two of these hospitals have more than 50 beds.

TAXES

Thirteen of the 43 hospitals paid no taxes and one did not answer. The classifications for exemption from taxes were given as follows: Non-profit corporation (1); charity wards (2); charity corporations (1); county institutions (1); religious organizations (1); charitable organization (1); Charity hospital (1); hospital (1); state charity institution (1); non-profit

(2). One hospital did not give its classification for exemption.

INCOME

In 38 hospitals, 51.6 per cent of all patients paid in full, 20 per cent paid in part, 10 per cent of patients admitted as pay patients paid nothing, and 18.4 per cent were admitted as charity. In 1932 in 28 hospitals approximately 52 per cent of all patients paid in full; 23 per cent paid in part; 12 per cent were admitted as pay patients and paid nothing; and 13 per cent were admitted as charity. It is surprising how nearly the same the figures for the two years are but five percent more patients were admitted as charity in 1933 than in 1934.

OUT-PATIENT CLINIC

Seventeen of 43 hospitals maintain out-patient clinics. The smallest number of visitors in any clinic was 55, the largest number 18,349, the average of the 17 was 4,912.

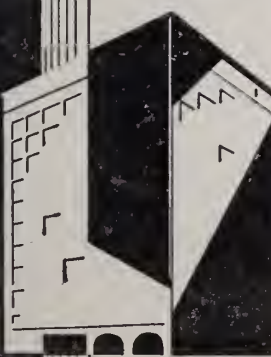
LABORATORY SERVICE—44 HOSPITALS

Hospitals having own clinical laboratory	39
Hospitals having no clinical laboratory	4
Hospitals using "city Laboratory"	1
Hospitals having laboratory reports signed by M.D.	22

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MEMPHIS CLARIDGE UNDER SAME MANAGEMENT

The Doctor

By Ann Foster Ellis

The doctor may give his physic,
The surgeon may use his knife;
And with all the rest, he is doing his best

To save a human life.

He may roll out his pills and send out his bills—

He may look so solemn and wise—

He may say we are nill and do what he will,

But he is trying to save a life.

Though he stretch our mouths wide and gouge deep in our sides,

And X-Ray our innermost "innards,"

We'll say he is right—we'll acknowledge his might,

For he's trying to save a life.

Hospitals having laboratory reports signed by technicians	17
Hospitals having laboratory reports signed by nurses	3
Autopsies performed in hospital:	
No autopsies	33
One autopsy	4
Two autopsies	1
Three autopsies	1
Five autopsies	2
Eight autopsies	2
All tissues examined macroscopically:	
Yes	35
No	7
All tissues examined microscopically:	
Yes	8
No	36
All tissues examined microscopically in own laboratory	
Tissues sent out for microscopical examination	33
No tissues examined microscopically in own laboratory or sent out	1
Suspicious tissues only sent out	1
Sent out at times for confirmation	1
Hospitals having own x-ray department	44
Hospitals having x-ray reports signed by M.D.	37
By technicians	5
By nurses	1

MINIMUM STANDARDS

Should routine microscopic examination of all tissues be a requirement for membership in this Association:

Yes	10
No	25
"Probably not"	1
"Recommended, not required"	1
Suspicious tissues only	1
"Yes, except tissues we are sure about"	1

In answer to: "It is desirable that our Hospital Association have a minimum standard for institutional membership. What do you think that standard should be?" the following was received:

"M.D. of good moral standing."

"Do efficient and scientific work in a modernized way."

"Minimum standards of the American College of Surgeons."—10 hospitals.

"Any reputable hospital."

"Minimum Standards of the American Hospital Association."—2 hospitals.

"Should have x-ray laboratory, clinical laboratory, trained nurses or nurses in training under a graduate nurse."

"Fully equipped and ethical."

"Could not be judged in times like this."

"He should be a reputable practitioner of medicine."

"Minimum standard should be judged by the quality of the work turned out rather than from the size of the institution."

"As near in line with standards as required by the national association as is practicable."

"Should not require Wassermann and pathological tissue examinations. Should have x-ray department. Should do routine laboratory work. Should keep records and staff meetings."

SCHOOL OF NURSING—29 Hospitals

	Beds	Bassi- nets	Aver. No. Pat.	Total Pat.	No. Stud- ents	Regis- tered Nurses
1.	45	5	9	615	11	1
2.	50	8		612	8	2
2.	25	4	12	314	3	3
4.	35	3	18	682	12	3
5.	28	4	14	384	10	3
6.	35	5	16	459	5	2
7.	30	3	11	551	8	1
8.	38	12	10	675	8	1
9.	50	6	10	397	9	2
10.	40	2	14	540	10	2
11.	25	6		385	5	1
12.	56	12	21	1,560	25	2
13.	100	14	40	1,553	25	6
14.	60	6	19	1,007	14	1
15.	50	6	14	1,028	12	3
16.	26	2		953	6	2
17.	25	2	5	340	6	1
18.	60	5	9	322	10	1
19.	100	8		2,310	24	3
20.	55	12	15	794	12	3
21.	75	12	17	1,162	18	3
22.	50	7	15	583	10	7
23.	50	1	7	363	6	1
24.	30	5	11	746	9	2
25.	52	5	15	660	12	4
26.	60	15	15	576	8	7
27.	25	2		241	3	2
28.	35	2	6	380	7	2
29.	75	6	32	1,405	34	4

In 29 hospitals maintaining schools of nursing, there are a total of 1385 beds and 180 bassinets, an average of 48 beds and 6 bassinets per hospital.

In 24 hospitals replying, the average daily number of patients was 15—the smallest number 5, the largest number 40.

Twenty-nine hospitals a total of 21,597 patients for the year—smallest number 241, largest number 2,310, average 745.

Twenty-nine hospitals had a total of 330 student nurses—smallest number 3, largest number 34, aver-

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DISTRIBUTION

3 Students, 2 Hospitals	11 Students, 1 Hospital
5 Students, 2 Hospitals	12 Students, 4 Hospitals
6 Students, 3 Hospitals	14 Students, 1 Hospital
7 Students, 1 Hospital	18 Students, 1 Hospital
8 Students, 4 Hospitals	24 Students, 1 Hospital
9 Students, 2 Hospitals	25 Students, 2 Hospitals
10 Students, 4 Hospitals	34 Students, 1 Hospital

All the above figures are very similar to those for 1932.

Twenty-nine hospitals employ 75 registered nurses or 20 more than in 1932, an average this year of 3 nurses per hospital.

The present standards of training and registration of nurses in Mississippi are satisfactory to 22 of the 44 hospitals returning information, not satisfactory to one hospital. The following suggestions and comments were offered:

"Affiliation with large hospital if hospital has less than 50 beds."

"Believe they should have individual desks when take state board examinations and not tables of four to six to a table."

"Satisfactory until we can do better."

"Satisfactory for time being."

"Fairly so."

"Nurses should be high school graduates. Facilities at training schools usually not sufficient."

"We discontinued paying monthly stipends to student nurses in 1931 and I am now convinced from my experience that this is an important factor in the process of selecting students of quality."

"I am also convinced that if all hospitals would abolish this apparently unnecessary expenditure to the student and spend this money for adequate teaching facilities they would be sufficiently compensated by obtaining more students with a sincere desire for study for a profession, and the hospitals would be better equipped to give them their education."

"If this subject was properly presented to the hospital executives of this state I believe it would eventually be generally advocated as a forward step in standardization of nurses' training."

"We employ seven registered nurses full time supplying them with board and lodging, the superintendent seeing that each has five days to a week special duty during the month if possible. This system works out so that there are, except on rare occasions, two graduate nurses in charge of each floor all the time."

"We do not use registered nurses entirely and would not consider it more economical than conducting a training school."

Eight hospitals without schools of nursing consider the employment of graduate nurses more economical than a training school. Two hospitals without schools of nursing do not consider the employment of graduate nurses more economical.

LOSSES FROM AUTOMOBILE ACCIDENT CASES

In response to the question, "Approximately what amount of money did you lose from the care of automobile accident cases in 1933?"

Twenty-two hospitals lost \$10,988.53. The smallest loss was \$28.00; the largest loss was \$2,000.00; the average loss was \$499.48.

For eight other hospitals, the smallest loss was one per cent; the greatest loss was 70 per cent; the average 52 per cent.

Seven hospitals answered as follows: "Large amount;" "don't know;" "amount very small;" "did not keep up with it;" "no record;" "none" (two hospitals).

Seven hospitals did not answer the question.

MEMBERSHIP

Your membership committee has been active. As a result of its activities four institutional active members, one personal active member and one associate active member have been added to our roster. The membership for the year:

INSTITUTIONAL ACTIVE MEMBERS

May 7, 1934—Institutional Active Members	49
Elected to membership during the year	4
	52
Dropped for non-payment of dues	2
Resigned	1

May 7, 1934—Institutional Active Members	48
--	----

PERSONAL ACTIVE MEMBERS

May 8, 1933—Personal Active Members	7
Elected to membership during the year	1
	8
Resigned	1

May 7, 1934—Institutional Active Members	7
--	---

PERSONAL ASSOCIATE MEMBERS

May 8, 1933—Personal Associate Members	0
Elected to membership during the year	1

May 7, 1934—Personal Associate Members	1
--	---

HONORARY MEMBERS

May 8, 1933—Honorary Members	1
May 7, 1934—Honorary Members	1

Respectfully submitted

LEON S. LIPPINCOTT,
Secretary

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Woman's Auxiliary

TO THE
MISSISSIPPI STATE MEDICAL ASSOCIATION

Mrs. Dan J. Williams, Editor
Gulfport, Mississippi

The Woman's Auxiliary to the Harrison, Stone, Hancock Counties Medical Society held its first meeting of the Club year Wednesday, October 18, at the home of the President, Mrs. Dan J. Williams. Tentative plans for the year's work were made including hospital work, entertainment of the nurses at Holiday time, education work and the raising of funds for Preventorium at Sanitorium. The possibility in the near future of establishing a "Hospital Aid Auxiliary" composed of a group of women from the various local organizations were discussed the details to be worked out after conferring these other committees.

It was decided to hold monthly meeting instead of bi-monthly as formerly and the regular meetings to be the third Wednesday of each month. An invitation is to be extended to the State President, Mrs. Henry Boswell to meet with us at the January, 1935 meeting.

Again I am asking the Presidents of all organized Auxiliaries to send me a report of your meetings. I have no other way of getting it, and the things you do or contemplate will surely be an inspiration to all doctors' wives.

Also let me urge that each organized Auxiliary have a live and up and coming membership committee. Many doctors' wives are "without" the fold because the aim of our organization has not been presented to her in the friendly manner so much desired by the original organizers.

Through the medium of this very splendid magazine we are given the privilege of doing a world of good in calling attention to our doctors the advantages of having their wives active in an organization whose first motive is creating a better atmosphere for them, and seeking constantly to further friendships among Doctor's families. And what is there in this world so fine as a "real friend?"

Mrs. Henry Boswell, State President, is arranging her itinerary so that she can visit each Auxiliary during her administration. Her coming will lend dignity and charm and helpfulness.

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M. Pinson Neal



This is a likeness of M. Pinson Neal, M.D. of the University of Missouri. He is to appear on the program of the Mid-South Post Graduate Medical Assembly. You will see his likeness again and his historical record in The Mississippi Doctor. We shall have much to say from now on about the essayists for the Mid-South issue.

Book Review

"Conception Period of Women" by Dr. Kyusaku Ogino, head of the Gynaecological Section of Takeyama Hospital, Nigata, Japan. English Translation by Dr. Yonez Miyagawa, Director of Government Institute for Infectious Diseases, Tokyo Imperial University, Hongooku, Tokyo, Japan, June 6, 1934.

This is a very interesting little book and is the culmination of the author's fifteen years of clinical research on the subject of natural birth control. Dr. Ogino, who is the foremost gynecologist of Japan, arrived at definite periods of sterility and fertility in women. Dr. Herman Knaus of Austria, working independently of Dr. Ogino, arrived at practically identical conclusions and their findings are known throughout the world as the Ogino-Knaus theory. Several American and European scientists have corroborated their theory.

Dr. Ogino has based his theory upon the duration of the ovulation period in the human female and the viable period of the ovulated ovum and of the spermatozoa. The ovulation period is determined from the next coming menses instead of from the last one since there is frequently a difference in the

length of the menstrual cycle of each individual. Since the exact number of days may be determined during which human conception is possible, Dr. Ogino's discovery may be considered a new development in medical science with great possibilities for race betterment. The use of artificial contraceptives in birth control, many of which may be dangerous and ineffective, may thus be discarded and in their place the sterility phase may be determined by simple calculation.

Publishers: Medical Arts Publishing Co., Harrisburg, Pennsylvania. Price \$1.00.

Dr. J. A. Majors



Here is a likeness of Dr. J. A. Majors, of Dallas, Texas. He was born and reared in Booneville, Miss. He handles W. B. Saunders' Medical Books. He can secure any book for you. He has a store in Dallas. He knows the book business. He knows the doctors of the Southern States and many in the North. He can call more doctors by name than any other man in the South and he knows quite a bit about them. He may not know quite everything, but he knows where to secure every kind of information that a doctor needs. It gives him much pleasure to do it. He is clever and obliging. He was born that way and he has not tried to grow out of it. His heart is warm and his handshake does you good like a medicine. He always takes much interest in The Mid-South Post Graduate Medical Assembly. This is one meeting that he always makes, himself. He is a real friend to this association. He will meet you in Memphis in February.

The American Urological Ass'n.

MONTAGUE BOYD, M.D., President
Atlanta, Georgia

The American Urological Association is now the largest urological association in the world, having about 1000 active members.

Since the organization of the Association in 1902, there has been only two meetings of the Association

held in the Southeast—New Orleans 1903, and Memphis 1931.

Recently, the American Urological Association has granted permission for the formation of a Southeastern Branch Society of the A. U. A., its members to reside in Alabama, Georgia, Florida, Louisiana, North Carolina, and Tennessee. There are seventy-seven urologists living in this area who are members of the American Urological Association.

The importance of the Branch Societies in the affairs of the National Association has been greatly increased by the recent adoption of an amendment to the Constitution and By-Laws, which makes it necessary for an applicant for membership in the A. U. A. to become first a member of his local Branch Society; only in very exceptional instances will this requirement be set aside.

The Southeastern Branch Society has been granted permission to have as active members not only those who are members of the A. U. A., but also urologists of exceptional qualification, who may not wish to join the A. U. A. Provision has also been made for an associate membership in the Branch Society to be composed of those who do not for some reason qualify for active membership but yet desire to attend the Society's meetings and participate in the discussions of urological problems.

The first meeting of the Southeastern Branch Society will be held in Atlanta, Georgia, December the seventh and eighth, and the officers of the Society have decided to present a program composed of addresses by the most prominent and best known urologists in the United States, so that every physician in the southeastern territory, who is interested in urological matters, will be anxious to be present. The value of the activities of the organization will in time be measured not only by the quality of the service which it renders the American Urological Association and the members of the Branch Society, but also by the service which it renders the general medical profession and the public of the Southeastern States by constantly improving the standard of urological practices and by transmitting to the whole medical profession and the public such knowledge of urological procedures as may be useful to them. Therefore, every physician in the southeastern territory who is interested in urology will be invited to attend the meeting and the addresses delivered will be planned for presentation to the general medical man as well as to the specialist in urology. All physicians who are practicing urology, regardless of whether they limit their practice entirely to urology, will be specially invited to be present so that they may become sufficiently informed concerning the plans and activities of the organization to decide whether or not they desire to make application for membership.

Among those invited to present papers are Dr. Edwin Boer of New York, Dr. Dellinger Barney of Boston, Dr. William Braasch and Dr. Hugh Cabot of the

DR. E. C. ELLETT
DR. R. O. RYCHENER
1720 Exchange Building
Memphis, Tenn.

Mayo Clinic, Dr. A. I. Folsom of Dallas, Dr. Herman Kretschmer of Chicago, Dr. Alexander Randall of Philadelphia, Dr. George Gilbert Smith of Boston, and Dr. Hugh Young of Baltimore.

Further information concerning the Society and the December meeting can be obtained from any member of the Executive Committee, composed of Dr. W. L. Bazemore, Macon, Georgia, Dr. E. S. Gilmer, Tampa, Florida, Dr. H. W. McKay, Charlotte, North Carolina, Dr. J. C. Pennington, Nashville, Tennessee, Dr. J. J. Ravenel, Charleston, South Carolina, and Dr. W. A. Reed, New Orleans, Louisiana, or the officers, Dr. Montague L. Boyd, Atlanta, President, Dr. Edgar G. Ballenger, Atlanta, President-Elect, and Dr. Earl Floyd, Atlanta, Secretary-Treasurer. Application blanks for membership and other information will be sent on request by the Secretary, Dr. Earl Floyd, 478 Peachtree Street N. E., Atlanta, Georgia.

Radiological Society to Meet

The Radiological Society of North America will hold its next annual meeting at the Hotel Peabody, Memphis, Tennessee, December 3-7, 1934.

The medical profession is cordially invited to attend. Further information can be obtained by addressing the secretary-treasurer, Dr. Donald S. Childs, 307 Medical Arts Building, Syracuse, New York.

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A Man of Vision

At the meeting of the State Medical Association in Grenada, Mississippi in the month of April, 1877, Dr. W. M. Compton, one of the members of the first State Board of Health just organized, made a masterful address on the State Board of Health. At the time that Dr. Compton lived—54 years ago—practically all that was known relative to the prevention of contagious and infectious diseases was cleanliness, quarantine, and vaccination against smallpox. In Dr. Compton's address, we find the following expressions: "The physicians of London deserved, and received great credit for their fidelity in the almost hopeless struggle against smallpox, which was such a malignant scourge, one hundred years ago. But imperishable honors cluster about the memory of the immortal Jenner, who found the means of preventing the disease, or so modifying it, as to render it comparatively harmless. Jenner had no microscope; Jenner was not an expert chemist; but Jenner had eyes, and saw, and he had ears, and he heard. The milk-maids told him that those of them who had cow-pox were protected from small-pox. Upon this hint, he went to work, and established vaccination in the world. And, behold what vaccination has done! And who knows but what another Jenner will rise up in the land and find a preventive or a mild substitute for yellow fever, cholera, typhoid fever, and other zymotic diseases?"

Dr. Compton's prophecy has come true. Other Jenners have arisen and have found means of driving from the face of the earth typhoid fever, diphtheria, scarlet fever, tuberculosis, yellow fever, the plague, malaria, rabies, and in short most all the contagious and infectious diseases that have destroyed millions of lives.

In 1880, Pasteur discovered that rabies could be prevented by inoculating gradually increasing doses of the virus into persons or animals bitten by rabid animals. As a result of his studies of Pasteur, Lister gave us aseptic surgery causing the death rate from surgical operations to drop from ten percent of the pre-Lister rate. Our own Oliver Wendell Holmes stated that the high death rate in obstetrics was due to physicians infecting their patients.

Diphtheria antitoxin was prepared and used by Von Behring of Germany in 1890. This antitoxin was first distributed by a city health department in the United States in the year 1894.

The use of toxin-antitoxin for active immunization against diphtheria in human beings started in 1913 by Von Behring. As a result of the use of toxin-antitoxin for producing immunity against diphtheria, the deaths from this disease in New York City dropped from 1158 in 1917 to 547 in 1923. Cases of diphtheria are five times as numerous among the children who have not been given toxin-antitoxin as among those that have been given toxin-antitoxin.

In the year 1901, it was definitely proved at the sacrifice of human life that the mosquito is the intermediate host for yellow fever and that this dreadful scourge is not transmitted in any other way. In this connection, it may be stated that Finley, nineteen years before, asserted positively that the mosquito was the transmitter of yellow fever.

Forty years ago it was determined positively that

another species of mosquito was responsible for the transmission of malaria. Thus we have discovered that mosquitoes alone are responsible for the transmission of two diseases that have exacted toll of thousands upon thousands of lives in the past.

Typhoid vaccine was practiced in 1896 by A. E. Wright of England. Vaccine in our own army was begun in 1899 as a voluntary procedure and was made compulsory in 1911. The results in the civil population where vaccine is used is comparable to those in military establishments. The lowest death rate in the army prior to the introduction of vaccine was twenty-seven per hundred thousand in 1906 and the lowest morbidity death rate was three hundred and twenty per hundred thousand in 1903. From these two low points, the best ever obtained under sanitary measure alone, the death rate fell precipitously following the introduction of vaccination to 4.4 per hundred thousand and the morbidity rate thirty-one per one hundred thousand.

Quoting further from Dr. Compton's address of fifty-four years ago: "The time has come when preventive medicine calls for more attention at the hands of the healing art than it has ever yet received. It is not enough for us to know how to administer calomel and quinine. While we are required to study how to cure a disease, the spirit of the age demands that we shall study how to prevent it. He was not altogether a foolish king, who suspended the pay of the court physician during the sickness of any member of his household, and resumed it again upon the recovery of the patient. Preventive medicine calls today for an army of observers, well-drilled and well-officered, with systematic instructions as to what they shall observe, and how to record their observations. Like the officers of the signal service, physicians, acute observing physicians, should be placed upon the watch-towers of health, as sentinels to guard against and give warning of the approach of disease.

"Preventive medicine is now in its infancy, but it was not born to die. So long as its foundation is science, and its end the good of mankind, it will live. It did not come into the world for a day, nor for a year, nor for a century. It will live throughout all the coming ages of man. Its growth may be slow, and now and then be checked. It may not accomplish much in our day and generation. We who are here assembled at Grenada today may pass away and leave no sign; but I confidently believe that the organization which we put in service now, is the great hope of future medicine, and that it will live forever. The plan may be imperfect, and many of our conceptions may prove to be erroneous, but the principle and the motive are right and cannot fail. Summoning all our professional pride, and all our pride of State, let us take position fully abreast with the foremost rank in progress. If we cannot accomplish much, we can at least put the machinery in motion, and as pioneers we can clear away some of the rubbish from the path of those who are to come after us. Looking along the vista of coming years, it may not be an unreasonable strain upon the imagination to see the future health officer of the nation—the Secretary of the Department of Health, if you please—with his council around him, while proclamation is being made that every form and variety of contagious and infectious disease has been banished from the earth, and that a physician from

the South, a member of the Mississippi State Medical Association, has just ferreted out the secret of malaria, and throttled it in its den. After all that unknown agent, called malaria, is the greatest curse known to human health, and he that finds the means to destroy it, or render it innocuous, will be the greatest benefactor the world ever saw. Epidemics of cholera and yellow fever come like tornadoes when they do come, and swell the list of mortality to an alarming extent for a time, and then disappear. But malaria is always with us—is always at work. Its victims fall one at a time, it is true, but they are constantly falling. I suppose that malaria carries more human beings to the grave in this State, than all other causes combined. The medical philosopher looks forward to a time when the great Mississippi Valley will be to this nation what the valley of the Nile was to ancient Egypt. Its great forests will be removed, and every foot of that fertile alluvium will be cleared and in cultivation. Ample levees will protect the field and gardens against inundation. Canals and railroads will intersect canals and railroads at convenient places. The earth will teem with the products of skilled agriculture. Millions of human beings will live where only thousands now are found. Sallow skins, torpid livers, enlarged spleens and feeble muscles, will give way to ruddy cheeks, healthy organs and athletic limbs. Fever and ague will be known only in history, and the goddess Hygeia herself will return to the earth and make the throne in our midst."

Two's Company, Three's a Crowd

"Sickness is a matter intimately personal. It is a time when sincerity of dealing cannot be compromised nor human feelings flouted.

"How disturbing, then, is the thought of having a third person or alien party exercise an influence on the relationship between the patient and his physician, the two persons who, above all others, are most vitally concerned when sickness enters the home.

"Yet this third party influence, with all its unpleasant and disturbing sequels, will inevitably be thrust upon patient and physician should some of the current new schemes of medical practice ever gain acceptance.

"Carried to their full development, such plans would mean that your family doctor would be the

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hiring of a commercial organization or of a department of the state, the former built up necessarily by business promotional efforts, high pressure salesmanship and price competition, the latter made compulsory by legal enactment.

"Experience has already shown that contract or insurance schemes would not be successful if they observed carefully the principles of conduct and fair competition which operate as definitely for the public good as for professional honor. In these principles financial gain is subordinated to the prime object of service to the patient and to humanity.

"Furthermore, the history of some of these ventures reveals highly deplorable tendencies. "Scare head" advertising has appeared as a means of frightening people into subscribing for memberships. Medical service has been promised at ridiculously low and actually impossible rates. The services of hundreds of physicians have been promised to subscribing members, whereas actually but a small fraction of that number were "signed up" and available. Patients have found that they must be served by the physician assigned to them, not by the man of their choice. And the poorer classes have paid the same price for medical service as the very wealthy.

"No, the fine, sympathetic, humanitarian service at present rendered by the family physician can never be satisfactorily replaced by a commercial organization that retails medical service for a profit, nor by the state with a mechanized or regimented medical profession. The interjection of such agencies between patient and physician is unnecessary and cannot fail to be disturbing to all parties concerned."—From Mead Johnson & Company's Announcement in Hygeia, September, 1934.

Visceroptosis*

F. L. McGAHEY, M.D.
Calhoun City, Miss.

Visceroptosis is that condition in which the viscera are in a position lower than normal and probably presents a more varied line of symptoms than any other condition we have to deal with, ranging from no symptoms of note to the most distressing type of disability as a result of which the patient may complain of general abdominal pain, tenderness, headache, backache, cardiac symptoms as arrhythmia and palpitation, shortness of breath, anorexia, loss of weight, frequent and painful urination, constipation and the various and sundry symptoms referable to a disturbed nervous system.

Individuals who suffer from visceroptosis are usually tall and slender, poorly developed and underweight. They have long legs, arms, neck and trunk. They never stand erect and rarely ever are without some complaint. They are always a burden to themselves, their neighbors and society in general. They often have more aches, pains and troubles than they can possibly relate at one sitting. There may be some hereditary tendency to this condition, but the most frequent cause is an absence of proper abdominal support. It may follow any long continued illness

that leaves the patient in a devitalized condition as typhoid, tuberculosis, chronic heart or kidney disease, diabetes, excessive mental or physical strain, repeated pregnancies or a relaxed pelvic floor, excessive eating or drinking, pressure from abdominal tumors and frequently from constipation.

The symptoms of this condition may be divided into two classes, the gastro-intestinal and psychoneurotic, either of which may predominate and either may react on the other, however they are usually referred to the organ predominantly involved in the ptosis. The organs most frequently involved in an abdominal visceroptosis are the stomach, colon, kidney and liver. In these cases where the stomach seems to be the organ primarily involved, the symptoms are mainly referable to that organ and consist of a sense of fullness after eating, or drinking, heartburn, palpitation, eructations, abdominal pain, sometimes general, headaches, dizziness etc., any or all of which may be greatly increased after eating or exercise. It is sometimes necessary to differentiate this condition from gastric or duodenal ulcer or the so-called chronic appendicitis, which some of our surgeons now tell us does not exist. A moderately marked ptosis of the stomach can often be made out by careful palpation after having the patient drink three or four large glasses of water to distend the stomach. And, too, we may resort to the use of the X-Ray following a barium meal to either make or confirm the diagnosis.

In those cases where the colon is primarily involved, there is a bulging or abdominal prominence of the lower abdomen when the patient stands which disappears on lying down. Also the backache, abdominal pain and discomfort are relieved on lying down or when the abdomen is lifted upward and held in normal position by a proper fitting supporter. This type of case is always prone to develop either a mucous colitis or a spastic constipation. Here again the X-Ray gives us our most reliable diagnostic information.

In these cases where the kidney is primarily involved, the symptoms are those of local pain and tenderness with acute attacks of pain which may radiate to the back and groins and is increased by exertion, may also have frequent and painful urination and oftentimes a reflex disturbance of the gastro-intestinal tract and nervous system or the so-called Deitels Crisis. The ptosed or floating kidney can often be palpated. The chief danger here is a blocked or kinked ureter which sometimes requires surgical intervention.

In cases where the liver is primarily involved the symptoms may be very slight or severe, depending on the degree of displacement. There may be digestive disturbances, pains in back, especially under right shoulder and respiratory and circulatory disturbances due to a pulling down on the diaphragm. Here again careful palpation and percussion with the patient in

W. LIKELY SIMPSON, M.D.

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*Read before Staff Meeting, Houston Hospital, Houston, Mississippi, May 31, 1934.

both the recumbent and erect posture is important. The chief aim in the treatment of this condition is to improve the patients general physical condition by rest, proper exercise, proper diet and the use of proper fitting abdominal supporters. This condition does not occur in children under ten or twelve years of age and therefore might be prevented by the proper prophylactic measures such as mentioned above. It is important that exercise be recommended for all children that will insure development of the abdominal muscles. These patients should be put to bed for at least two to four weeks. Gentle massage for thirty or forty minutes two or three times a day is beneficial, or the following exercises, lying upon back, with the hands above the head, raising the legs to right angles with the body and breathing deeply at the same time, or standing, move the trunk upon the pelvis forward and backward and from side to side, or lying on back with hands above head and slowly rise to a sitting posture and back again, keeping the legs on the floor. The intention of all these exercises being to increase the strength and tonicity of the abdominal muscles.

The diet should be a bland nutritious one that will put weight on the patient and should be given in small amounts at frequent intervals. Tea, coffee, alcohol and tobacco should be used sparingly if allowed at all. If necessary give some digestant along with the diet and tonics if indicated.

These patients often develop a gastric hyperacidity and if subjective symptoms follow, the usual alkaline treatment may be used to advantage. When intestinal stasis develops, it is best treated by suitable diet, mineral oil as a lubricant and an occasional enema. When spastic constipation develops it can often be relieved by the administration of belladonna.

If the thin, lean patients are fattened and the psychoneurotic patients are rested, mentally and physically, and re-educated to normal habits, the distressing symptoms of visceroptosis will usually be relieved.

Letters to the Editor

Dr. W. H. Anderson
Booneville, Miss.,

Dear Doctor:

I just wanted to write you about a trip I made recently, down to Houlka, Mississippi, to attend a meeting of the outstanding medical society in America. The main thing I wanted to write you, was that I met one of the most promising young doctors which it has ever been my privilege to meet. His name is W. C. Walker. While he freely admits that he is somewhat enamored by the fair sex, and can go off into ecstatic and sublime heights of brilliancy and oratory when the ladies are mentioned, he can also look far into the future of medicine when doctors may become angels along with the sex he so freely admits that he loves, with profound respect and devotion.

Then, too, I would not forget to mention good old doctor Jim Hood, who contributed so much to the pleasure of the occasion, and who helped to emphasize the statement by young Dr. Walker, that Houlka, is the center of all things good.

Again I would not forget the fair ladies of Houlka, who provided such a wonderful dinner, and who further substantiated Dr. Walker's, statement that Houlka, is the beginning of all things good.

Great town. Great folks. Great doctors, and the picture should be emblazoned in flaming headlines on the memory of each one present.

Them's my sentiments,

J. A. RAYBURN.

Pontotoc, Miss.

Dr. W. H. Anderson, Editor
Booneville, Miss.

Dear Dr. Anderson:

The issues of the Mississippi are fine, I especially enjoyed the November issue. I think Dr. W. A. Evans is Mississippi's greatest living man. My father, Dr. H. A. Minor, and Dr. Evans' father were surgeons in the Confederate Army; he often said that there was no better soldier and surgeon than Dr. Evans Sr.

With best wishes to you and yours, I beg to be,

Most sincerely yours,

L. L. MINOR M.D.

October 28, 1934.

Dr. Minor, we greatly appreciate your letter. The good will and the cooperative spirit that we can read between the lines make it doubly appreciated.—Ed.

"The ability to use words smoothly, freely, and effectively is a sign of the educated man or woman."

It is estimated that approximately 65,000,000 persons in the United States carry life insurance.

"It was not until the Ninth Century after Christ that the division of sentences by period, colon, and semicolon marks took place. The comma was the same as today, a large dot or double dot indicated the full stop, and a high dot stood for a colon or semicolon."

The good secretary knows that courtesy helps to produce cheerfulness and good humor, all-essential to a good working atmosphere. By her poise, her tact, and her courteous manner, she contributes to this atmosphere and helps to maintain it.

So live that you can get sick and be delirious without later worrying over what you've said.

"Character, my friends, is a by-product. It is produced in the great manufacture of daily duty."—Woodrow Wilson.

In Vermont there are 116 towns which have no resident physician.

It is a hard world. If you don't lift your hat, you expose your bad manners, if you do, you expose your bald spot.

HENRY G. HILL, M.D.
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Memphis, Tennessee

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Cripples and Deformities

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THE PROGRAM OF POST GRADUATE EDUCATION

The Committee on Post Graduate Medical Education in Mississippi is happy to announce that beginning January 1, 1935, Dr. Maxwell E. Lapham will give the lectures on prenatal and postnatal care, conduct clinics, and be available for group or individual consultation.

Dr. Lapham, age thirty-four, graduated in medicine in 1925, at the University of Pennsylvania. He served two years in rotating internship at the Presbyterian Hospital of Philadelphia, spent five months in medical practice in Labrador; served as resident obstetrician at the University of Pennsylvania Hospital, and as instructor in obstetrics at the University of Pennsylvania, and now Dr. Lapham is back at the University of Pennsylvania for three months graduate work. The Committee is glad to have been able to secure the services of a man so well qualified in this subject and having the attributes of character and personality which fit him for this pioneering educational movement.

The method of instruction is the organization of classes of physicians in convenient centers to meet for two hours one day a week for eight or ten consecutive weeks. The first centers proposed are Natchez, Centreville, McComb, Columbia, and Silver Creek.

"Between the ages of twenty and thirty anyone with an ambition for improvement can acquire the equivalent of a college education merely by using hours otherwise given to idleness and boredom for reading and study.

"It's the old story. Most of us are careful in the expenditure of large sums of money. We have little regard for nickels, dimes, quarters, or even dollars. They slip away easily and with them go the possibility of acquiring a competence. So with our time. We waste time in half hours, perhaps the equivalent of one year in every ten. With wasted half hours goes the possibility of making one's self the man or woman each would like to become."—Copied.

A college professor can teach a student that quinine will cure malaria, but he does not know how to tell him to get the patient to arrange for the money to buy the medicine and to get him to take it six weeks.

The average college professor should practice medicine out on Hatchie River each year during his summer vacation.

Every practitioner who does hard, conscientious work in his practice is doing a part in the new discoveries in medicine and surgery. He lays down a stone for some one else to step upon.

This work is the result of the action of the Mississippi State Medical Association last May in Natchez, when it made an appropriation of \$1,500 and requested the Commonwealth Fund of New York to co-operate financially with the Association, the Tulane Schools of Medicine, and the Mississippi State Board of Health. The grant was made by these agencies, and the organizer is now ready to begin his work of enrolling those who wish to take advantage of this unusual and worth while opportunity.

E. C. PARKER, M.D.,
Pres. State Medical Ass'n.
T. M. DYE, M.D.,
Secretary State Medical Ass'n.
H. W. KOSTMAYER, M.D.,
Dean Graduate School of Med. Tulane U.
C. C. BASS, M.D.,
Dean School of Med., Tulane University
LEON S. LIPPINCOTT, M.D.,
Secretary State Hospital Ass'n.
J. W. Lipscomb, M.D.,
Pres. State Board of Health
FELIX J. UNDERWOOD, M.D.,
Executive Officer State Board of Health

It is not an easy job to find the malaria parasite in many clear cut clinical cases of malaria.

Any sheet of paper used for business purposes that does not bear a date is a contribution to possible confusion.

A great deal of good can be done in the world if one is not too careful who gets the credit—An old Jesuit motto.

Bits of philosophy of Benjamin Franklin:
He that lieth down with dogs shall rise up with fleas.

He that falls in love with himself shall have no rival.

By diligence and patience the mouse ate in two the cable.

Want of care does us more danger than want of knowledge.

Great good nature, without prudence, is a great misfortune.

Neglect minding a small fault and 'twill soon be a great one.

Now I have a sheep and a cow, everyone bids me a good morrow.

Nothing is higher than ambition when it is about to climb.

If you would keep your secret from an enemy, tell it not to a friend.

DECEMBER MEETING NORTHEAST MISSISSIPPI 13-COUNTY MEDICAL SOCIETY

The place—Tupelo, the city of light in the center of the medical society.

Time—Tuesday, December 18th.

The Program—Our guest, Dr. G. W. Hendon of Louisville, Kentucky; Dr. Felix J. Underwood of Jackson, Dr. D. D. Baugh, Houston and Dr. A. G. LeRoy, Booneville.

You will see the program is fine. The meeting place is central and the medical profession in this city of bright lights at TVA rates, is very cordial.

It is the last meeting of the year, time to elect officers and round out the annual business. It is time to pay your dues for another year.

Organized medicine expects you to contribute your part. To do this you must attend the meetings of your local society. It is good for you to attend and it is good for your clientele. Let us all meet at this meeting and have a good and a profitable time.

Mr. Doctor:

READ THE BOONEVILLE INDEPENDENT—

It is edited by Dr. W. H. Anderson, who also edits the Mississippi Doctor. He is a busy practicing physician, operating a Clinic and doing general practice.

It is one of the outstanding weeklies in the country.

It has an honest-to-goodness Editorial page.

Its editorial policy is for better living conditions.

It stands for the education of the layman in matters of preventive medicine.

It has stood for the establishment and maintenance of the small town hospital. It was one of the first advocates of this most important movement.

It stands for bringing hospital facilities to the people.

It has made a strong fight for the control and eradication of malaria.

It stands for clean, sober living and for the things that make life worth while.

It stands for the development and utilization of our local resources.

It stands for better roads; for better communication facilities.

It stands for the up-building of our farm life; for making it more attractive for the rural population.

It stands for clean politics; it stands for the best in education; it believes in giving every boy and girl a chance in life.

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No extra tuition charge for courses in commercial subjects or in home economics.

Entrance only by graduation from accredited high school or by examination. We have no preparatory department.

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OFFICIAL ORGAN

MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

VOL. 12

BOONEVILLE, MISSISSIPPI, DECEMBER, 1934

NO. 7

THE N.Y. ACADEMY
OF MEDICINE
AUG -9 '37
LIBRARY

THE EVE OF CHRISTMAS

By Grace Noll Crowell

The spirit of the blessed Christmas time
Is in the air,
Here in this silent room, the street,
And everywhere.

I would be quiet; I would be alone
With no lamp lit;
Let me have my hearth fire, and one candle,
And one star, and it
Framed in my window like a watching face;
And let me dream
Of other Christmases that I have known,
The firelight gleam
Lighting the darkened ceiling and the floor;
A glimmer of tears
Silvering the bright way I have come
Across the years,
The Child forever in my heart.

He, and my children, and all children of the earth,
So much a part
Of every Christmas I have ever known!
Now they are gone:
The Child to paradise, and mine are men;
But now, as then,
The Child is in His manger bed, and mine
Are close about me in this darkened room,
The starry shine
Of Christmas in their eyes again.

Oh, hearth fire, burn! Oh, star and candle, gleam!
And let me dream.



“Kiss me goodbye,
darling—

and eat
your apple
on the way
to school”

MOTHERLY kisses are all right, and so are apples, *but*—Thousands of little boys and girls are rushed off to school hungry every morning—with a kiss and/or an apple or bun—because insufficient time was allowed for the child's morning meal.



Pablum (Mead's Cereal pre-cooked) is a palatable cereal consisting of wheatmeal, oatmeal, cornmeal, wheat embryo, alfalfa leaf, beef bone, brewers' yeast, and salt.

BREAKFAST, which should form an important foundation for the growing child's eager activities, frequently is a mere snack, hurriedly gulped, so that many a child goes to school half-starved. How can a hungry child learn his lessons?

In behalf of tired mothers, it must be said that the long cooking of ordinary cereals is a drudgery, especially if there also be smaller children who break her rest during the night and clamor for attention before dawn. In most cases, the older members of the family lose out at breakfast time not because the mother is lazy or inconsiderate, but simply because she is exhausted and requires extra rest.

A happy solution of the breakfast problem, one that may even hold the home together during such troublous times, who knows, is PABLUM.

PABLUM banishes over-night and early-morning cereal drudgery, so that mothers can get their deserved rest. At the same time, all members of the family, including the school children, are assured of a quick *nourishing* breakfast.

To prepare PABLUM, simply add milk or water of any temperature, and serve with cream, salt and sugar. If preceded by orange or tomato juice and followed by a glass of milk, and a capsule of Mead's Viosterol in Halibut Liver Oil, such a breakfast fulfills every nutritional requirement: Protein✓ Fat✓ Carbohydrate✓ Vitamins: A, B, C, D, E, G✓✓ Minerals: Calcium, Phosphorus, Iron, Copper, Etc., Etc.✓✓ Calories✓

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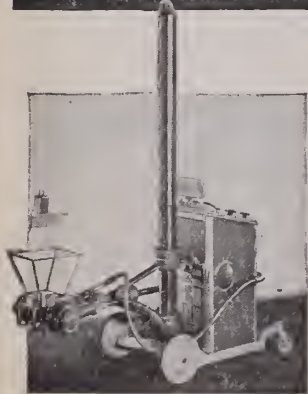
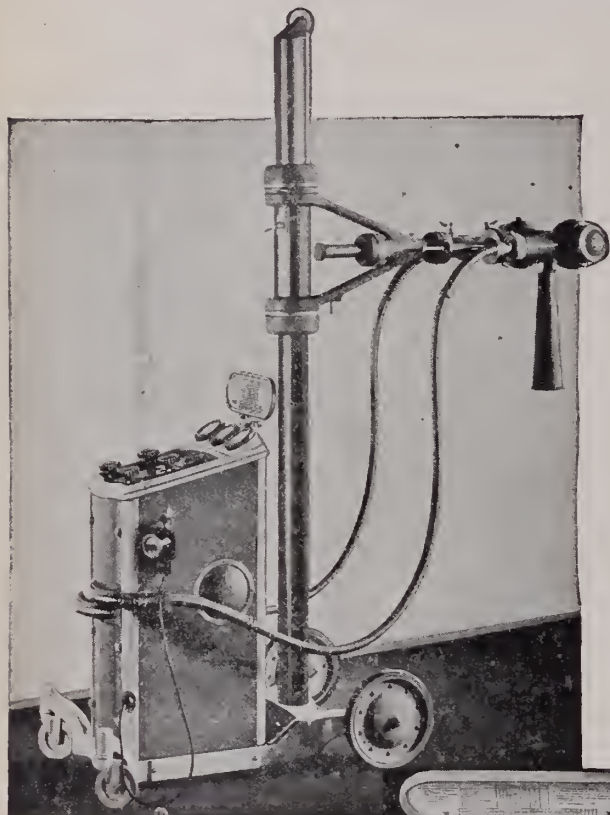


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(Above) Complete controls, including technique chart. (Left) Adjusted for horizontal fluoroscopy.

● Completely shock-proof with X-Ray tube immersed in oil.

Capacity 10 Ma. at 89 K.V.C.—this high capacity permitting the use of standard techniques at standard distances, avoiding distortion in films.

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_____. M.D.

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X-Ray

The Mississippi Doctor

The Journal with a vision, the delivery of modern medicine to the masses at less cost to the individual and more profit to the practitioner. The champion of the small hospital, the hub around which this service must be built.

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EDITORIAL

The average case of appendicitis should be diagnosed and operated within six hours of the onset. In order for this to be done funds must be available for the charity and middle class to pay for the hospital expense and some to the surgeon, especially the country surgeon. It makes no difference who says what about medical ethics and state medicine this problem must be solved if we are to reduce the mortality in appendicitis. The principle of insurance in many ways for the middle class is right. It is all right for the one who stays well, is blessed with good health, to help to pay for the one who gets sick. This is brotherly love, this is based on good Bible teaching. The big trouble comes with the man who is determined to cost the doctor or the hospital more than he pays regardless whether he is sick or not. But any way the medical profession must deal with its medical problems and study them as it has not done before. We might as well get down to practical sense.

Our good friend George Loftus was representing the Radium Chemical Company at the Radiological Society at Memphis. It was good to see him. Radium works better bought from him. It has personality and good spirits added to it. George knows his radium. He knows the doctors of the United States as but few men do. He knows nearly every thing or where to find out about it. He was simply born to do service to others. He loves it. You always feel better after seeing him. He is a New Yorker, but he came down to Dallas when he got ready to sell himself in matrimony. We hope he does not stay away so long next time.

Dr. A. C. Christie, of Washington, D. C., was one of the members prominent on the program of the American Radiological Society which met at Memphis last week. He is not only one of the outstanding men in this specialty, but he is well balanced in every respect. He was a member of the committee making a study of the cost of medical care and was prominent on the minority report. He has mighty sound judgment. We expect to have an article along this line from his pen for The Mississippi Doctor at an early date.

A letter from Dr. W. A. Evans was appreciated very much. We hope to have him to spend quite a bit of time with us in the future. We are hoping that he may find time to be a regular contributor to The Mississippi Doctor.

Last year The Mississippi Doctor went out five thousand strong in the interest of the Mid-South. It is planning the same thing this time. Has any other journal ever offered service comparable to this?

Memphis has a number of men prominent in the radiological society, among them might be mentioned Drs. Lawrence, Heacock, Bethea, Robinson, Abernathy and Coley.

You will enjoy reading about the medical school at Memphis. This school is gaining ground each day. Memphis is growing steadily as a medical center.

If the New York nurses keep raising the requirements for this profession the indications are that all the little hospitals will have to quit as training schools. The large training schools have their place. They are especially good for post graduate work. The nurses they turn out generally speaking are not as good for practical purposes as the one who graduates from the small hospital. The average person is hardly able to hire a graduate nurse at six dollars a day much less a maid and an orderly to wait on them. The need at this time is for a nurse who does not mind work, who has initiative and adaptability, and knows a few minor things in addition to keeping a chart. The small hospitals of our state, all of our hospitals, are graduating a class of nurses who are more serviceable to our needs than the ones from New York as a rule, but we have but few hospitals that can come up to the minimum requirements. The result is going to be that the small hospital will be forced to use two or three graduate nurses and the rest practical ones who will work for three dollars a day and will render the type of service now demanded by the public.

On December the 25th we will celebrate the birth of the author of the Guide Book of Life. The only book you can always follow and fear no evil. It is a book that we believe is all right to die by, it is certainly the one safe one to live by successfully. Honor and glory to the Prince of Peace, the Champion of Democracy, the Lover of Man, and the Savior of the world.

May be there is nothing new, but facts can be arranged in different forms. Definite Diagnosis by Kitchens published by W. B. Saunders, Philadelphia in this respect is new. It is handy. It is a book that you will like, one you can use for rapid reference. See the outline of it in this issue. We appreciate a copy for review.

You will note the financial report of Dr. J. M. Acker our efficient secretary. He thinks he will not be able to serve the society as secretary while his duties are so heavy. The society regrets this very much. Dr. Acker has been a very efficient secretary. He is making good as Superintendent of the Hospital for the insane at Jackson.

The income of the general practitioner must be increased, the cost of medical care to the masses, to the individual of the rank and file must be decreased. This is the problem.

Keep in mind the MidSouth Post Graduate Medical Assembly for February. It will be the best meeting we have yet had it seems.

A professional mind, a medical soul and a missionary heart should be basic requirements for the medical student.

Mississippi has her own medical and hospital problems and The Mississippi Doctor is interested in helping to solve them.

We appreciate the books for review from F. A. Davis Company, Philadelphia.

A good eater must be a good man; for a good eater must have a good digestion, and a good digestion depends upon a good conscience.—Disraeli.

When down in the mouth, remember Jonah. He came out all right.—Joseph French Johnson.

The medical profession and the middle class of people must meet in the town of from one to twenty thousand.

Eighty-five per cent of medical and surgical practice should be done by eighty-five per cent of the medical profession.

The laity must have more medical information and the country weekly is perhaps the best medium

Vicksburg is putting on its big annual meeting on December 11th.

The North East Mississippi 13-County Medical Society will meet in Tupelo on the third Tuesday in December—the 18th.

A medical center follows the small hospital just like daylight follows the sun.

Service to humanity can not go unrewarded, not any more than matter can be destroyed.

Look over the lineup for the Mid-South in February. Make ready to attend.

The doctor who has plenty of patients should not be lacking in medical knowledge.

After studying your medical books turn through the book of human personalities for your post graduate course.

Many of our medical schools need a new model.

A good many men announce their specialty and then doctor or operate anything that comes along.

"A faith is a necessity to man. Woe unto him who believes nothing."

The general practitioner as a rule deserves more money for his services.

Of course it is no trouble for the devil to catch a lazy man, but what good is he when he is caught?

Never have any disease today that you can put off until tomorrow.

"Many have turned stumbling blocks into stepping stones."

Post graduate courses must be brought to the door of the general practitioner.

"As work diminishes necessity increases."

"Critics are like brushers of other men's clothes."

Woman's Auxiliary

TO THE
MISSISSIPPI STATE MEDICAL ASSOCIATION

Mrs. Dan J. Williams, Editor
Gulfport, Mississippi

MEDICAL AUXILIARY PLANS SEWING, CHRISTMAS PARTY

The Woman's Auxiliary to the Harrison-Stone-Hancock Counties Medical Society met Wednesday afternoon at the home of Mrs. George Melvin at the Veterans' Hospital post, with Mrs. W. E. Manney and Mrs. John Laird as cohostesses. Arrangements were completed for the sewing day for the members at the King's Daughters Hospital Friday. Several weeks ago the auxiliary outlined a plan whereby other organizations have been interested to aid in the sewing day at the hospital, the Gulfport Woman's Club which is to sew there the first and third Fridays, having inaugurated the plan last week and the King's Daughters Circle will sew the second Fridays. The purpose of the sewing is to do the needed mending, etc., at the hospital. The Medical Auxiliary laid plans for a big Christmas party the night of Thursday, December 27, at the Woman's Club when the student nurses of the King's Daughters Hospital, the regular nurses of the Veterans' Hospital, and the husbands of the members will be guests. The auxiliary, will hold a business session the morning of December 12 at the Woman's Club to complete plans for this party. At the close of the meeting Wednesday the hostesses served party refreshments. The tea table was centered with roses. Mrs. Daniel J. Williams, auxiliary president, poured coffee. Guests present were: Mrs. Willa Files of Long Beach, Miss M. E. Singleton, superintendent of nurses at the King's Daughters Hospital, Miss Martha Randall, social worker with the Veterans' Bureau with headquarters at Augusta, Ga. Members present were: Dr. Emma Gay, Mesdames Daniel J. Williams, J. C. Hudgens, M. M. Snelling, W. E. Murphy, J. A. McDevitt, Harry R. Reynolds, E. C. Parker, H. K. Rouse, Elmer D. Gay, John Laird, W. E. Manney and George Melvin. —The Daily Herald, Nov. 23.

HAPPY NEW YEAR

Before another issue of our valuable magazine the holidays will have come and gone, another's year's work for the Medical Auxiliaries will be ahead of us and let us renew old activities that brought results and further new ones. It is only active members that are interested in any organization and it's up to the active ones to get the whole membership interested. "By your works shall we know you," said the wise man.

I wish all our readers a Merry Christmas and a Happy and Prosperous New Year.

He has a right to criticize who has a heart to help.—Abraham Lincoln.

Not only strike while the iron is hot, but make it hot by striking.—Oliver Cromwell.

"It is all right to think before you speak, but don't go to sleep while meditating."

"Behind every career is a decision."

Dr. Bryan Elected President

The new president of the Radiological Society of North America is Dr. Lloyd Bryan of San Francisco, Cal.

Dr. A. C. Bramlett

OXFORD, Miss., Dec. 7.—Dr. Ambrose Chandler Bramlett, 83, prominent Mississippi physician, died at his home here this morning at 8 o'clock of heart trouble.

Dr. Bramlett's private life was spent for the love of wild game and much of his time was spent in the fall hunting in the Mississippi delta.

Dr. Bramlett was born Sept. 26, 1851, in Pontotoc County. With the exception of a few years during his 'teens spent in Georgia, his entire business life was lived in Mississippi. He began practice in 1871 at Enid, Miss. He did not receive his doctor's degree until 1891 from Louisville Medical College.

He moved to Oxford in 1896 where he was active in practice until 1930. Dr. Bramlett was a member of the North Mississippi Medical Society and in partnership with his son, Dr. Eugene, in Bramlett's Hospital and the founder of Bramlett's Drug Store.

Surviving are two sons, Dr. W. P. Bramlett, Philadelphia, Pa., and Dr. E. S. Bramlett of Oxford, and one daughter, Miss Jessie Bramlett, Oxford. He is also survived by nine grandchildren and three great-grandchildren.

Funeral services will be held from the home tomorrow afternoon at 2 o'clock, by the Rev. F. M. Purser, assisted by the Rev. W. L. Smith. Burial will be in St. Peter's Cemetery of Oxford.

Honorary pallbearers will be: Drs. B. S. Guyton, J. C. Culley, A. H. Little, James Sims, W. W. Phillips, P. L. Mull, J. B. Looper, F. E. Linder, James Gathright and P. W. Rowland, and the following business men: T. E. Avent, Wiley Chandler, Garland Kimmons, R. L. Kirkwood and Jack Hume.

Active pallbearers will be: Will Robinson, Bob Harkins, Walter Miller, C. D. Bennett, J. W. T. Faulkner, Sr., Ike Roberts, Jim Rodgers and Lex Ramey.—Commercial Appeal.

Dr. M. S. Chandler

Dr. M. S. Chandler died at his home in Columbus, Miss., on December 5. Dr. Chandler was 67 years of age and had been practicing in that city for about 40 years. He was 67 years of age, was born in Macon County, Alabama and educated at Auburn and Emory College. He is survived by five children, Mrs. Oscar Burris, Columbus; Mrs. George Rice, Stuart Chandler and Ervin Chandler, of New Orleans, and Hardin Chandler of Columbus. Funeral services were held in Columbus, on December 6.

DR. SEALE HARRIS

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Vascular Changes in Diabetes— Diagnosis and Treatment

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Diabetics as a group, since the introduction of insulin, no longer succumb to inanition and acidosis, but to arteriosclerosis, manifesting itself especially in gangrene and infection of the lower extremities and in coronary thrombosis. Consequently, a knowledge of arterial disease as it occurs in diabetes is extremely important.

AGE, ARTERIOSCLEROSIS AND DIABETES. Arteriosclerosis inevitably occurs in human beings with age; in the normal course of events, arterial changes are evident, microscopically, in the early forties and, macroscopically, after 50 years of age; the aging process is the same in all supporting substances including the blood vessels and the cornea; the cause for aging of the arteries is the increasing dehydration of both the intra and extra cellular materials. (Ludwig Aschoff in Arteriosclerosis, edited by Cowdry, MacMillan Co., 1933).

The very marked arteriosclerosis associated with obliteration of the arteries in diabetes, is identical with the age changes outlined above with the noteworthy exception that the process is markedly accentuated. There are some clinicians who urge that the arteriosclerosis in diabetics is the same as in old non-diabetic individuals. This is correct, but it is only a partial truth since involvement of the arteries in the diabetic is so much more marked. The greater incidence of gangrene in diabetes than in uncomplicated senility, makes this very evident. While it should be recognized that the two processes are, to a certain extent, identical yet the degree to which they advance is so different that it is impractical and wrong to ignore the fact that uncontrolled diabetes fatefully accentuates the arterial damage characteristic of advancing years.

PATHOLOGY. The intima of the arteries is thickened; there are hyaline changes, lipid infiltration, deposit of cholesterol crystals, fraying and reduplication of the internal elastic lamina, and calcification. The media shows calcification and hyaline degeneration of the muscle. From the clinician's viewpoint, the two most important changes are the calcinosis, which is very common and can be identified by means of X-ray plates, and the obliteration of the vascular lumen, which is usually the determining cause of gangrene and can be demonstrated by arteriograms. The arteries of the lower extremities are usually much more extensively and severely involved than those of the arms; the blood vessels throughout the body are prone to be more or less affected by arteriosclerosis. MacCallum (Arteriosclerosis, edited by Cowdry, 1933) finds that in diabetes the arteries of the leg and the coronary vessels are involved at an earlier age and more extensively by obliterating endarteritis than in other conditions; he believes that the cerebral and renal arteries are not more frequently or severely diseased in diabetics than in the population at large.

ETIOLOGY. The problem of what deviations in

the diabetic accelerate and intensify the normal aging process in the arteries and other tissues is important, for upon their control must depend the prevention of arteriosclerosis. In spite of a great deal of thought and study that has been devoted to the reason for the development of arteriosclerosis in diabetes, no final conclusion has been reached regarding it. The following are considered as possible causes:

- A. Cholesterol
- B. Sugar (hyperglycemia)
- C. Acidosis
- D. Epinephrine (insulin effect)
- E. Dessication

A. CHOLESTEROL. It is appreciated that there is a tendency toward an elevation of the blood cholesterol in diabetes. While hypercholesterolemia is present in some cases of diabetes, it is neither marked nor constant in cases that are even fairly well controlled. An excess of cholesterol in the blood will result in a deposit of this material in the intima. Before cholesterol should be accepted as a dominant factor in the causation of arteriosclerosis in diabetics, the following facts should be considered:

- a. An excess of cholesterol in the blood does not necessarily result in arteriosclerosis. This is seen in so-called cases of nephrosis in which, though hypercholesterolemia is persistent and high, significant arteriosclerosis is the exception.
- b. It has been shown experimentally that the deposit of cholesterol in the arteries can be absorbed and often is.
- c. Cholesterol deposits in the arterial wall become permanent and damaging only when there is an underlying pathology in the arteries.
- d. Cholesterol deposits are not one of the most important pathological changes which determine the severity of the arteriosclerosis in diabetes.

For these reasons, cholesterol at present cannot be regarded as more than a contributing cause for the development of severe arteriosclerosis in diabetes.

B. SUGAR. We have observed a number of cases which have shown hyperglycemia for many years; these patients have felt well and developed no arteriosclerosis. This statement applies only to those diabetics with hyperglycemia whose urine is free from sugar. Therefore, it is concluded that an elevated blood sugar in itself is not a cause for arteriosclerosis.

C. ACIDOSIS. Since the advent of insulin, that is during the last decade, acidosis in diabetics, even slight acidosis, is much less frequently found, but arteriosclerosis is distinctly more prevalent. This would make it appear that the two are not closely associated. On the other hand, there are observations which show that even very small amounts of the ketone bodies, as may occur in the blood of well treated diabetics, will result in tissue degeneration. How much

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attention should be paid to this possibility is an open question that may possibly have its answer in the lack of arterial complications resulting from the acid-producing diets used in epilepsy and the treatment of other conditions.

D. INSULIN. The direct action of insulin is not provocative of arterial degeneration. Insulin, indirectly, by overdosage, resulting in hypoglycemia and thereby causing a compensatory production of epinephrine, should favor the development of arteriosclerosis. An occasional hypoglycemic reaction is probably of no significance in this regard and is almost unavoidable in many patients; on the other hand, the frequent repetition of this insulin effect is extremely undesirable for many reasons. Experiments with epinephrine injections of animals show that calcinosis of the arteries results; it is tempting to assume that the calcareous deposits so characteristic of arteriosclerosis in diabetes, may be promoted in this way.

E. DESSICATION. It has already been noted that dehydration of the colloid material of the vascular walls is one of the principal reasons for aging of the arteries. The most probable cause for the development of an undue degree of arteriosclerosis in the diabetic, in our opinion, is the effect of dessication as induced by the prolonged polyuria accompanying the elimination of sugar in the urine. The reasons upon which this assumption is based, are as follows:

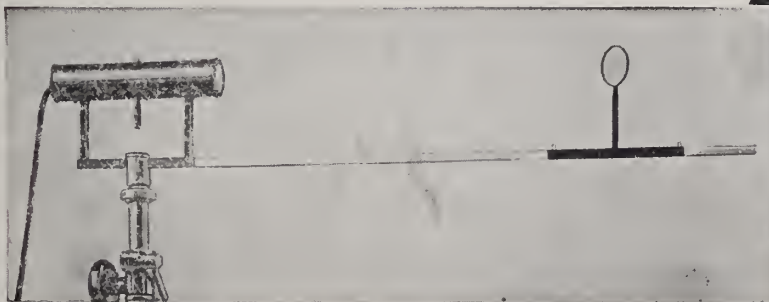
1. We have noted that the cases of diabetes suffering with gangrene of the extremities are those which have had glycosuria, polyuria and dessication for a period of five years or more.
2. The generally accepted explanation for the development of arteriosclerosis is a dehydration

of the colloids in the vascular wall.

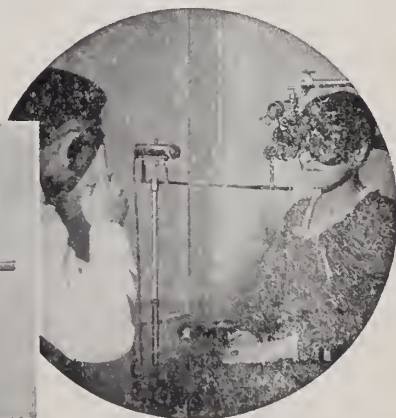
3. Weir Mitchell, in a paper published more than half a century ago in the American Journal of Medical Sciences, showed that in frogs which had received a considerable quantity of glucose, cataract would manifest itself promptly when these animals were dessicated and that the cataract would disappear rapidly when the dehydrated animals were placed in water. It has been mentioned that the tissue changes resulting in cataract and in arteriosclerosis are very similar.

F. TROPHIC. The knee jerks are absent or very much diminished in some cases of diabetes. Where the impairment lies, whether in the spinal cord or in the peripheral nerves, had not been determined. None of the other symptoms of tabes dorsalis with the exception of perforating ulcer, is found. The condition has been called the pseudo-tabes of diabetes. Since the introduction of insulin the number of diabetics with absent knee jerks has, in our experience, diminished a good deal. The possibility of trophic disturbances is obviously important in the relation to prevention and treatment of ulcers and gangrene of the lower extremities. Antiluetic treatment is not indicated except in the very rare instances when the Wassermann reaction is positive. The diminished sensation to temperature, touch and pain, leading to trauma, burns and frost bite may be ascribed, in part, to this nerve involvement and has to be recognized whenever diabetics are treated. It may be that in addition to the vascular cause for ulcer, gangrene and infection, in diabetes there is a trophic one. Thus far there are no means known for the treatment of this possible complication and except for the warning

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to patients and nurses that the feet and legs are to be spared all undue trauma, no therapeutic measures are available.

EXAMINATION AND APPRAISEMENT OF INFECTIONS AND GANGRENE

a. **GENERAL EXAMINATION.** The diet should contain a maintenance ration; obesity or malnutrition should receive immediate dietary attention; the urine should be free from sugar and acetone bodies. Hypercholesterinemia should be corrected by regulation of the diabetes, diminishing the fat content of the diet, or both. A high blood sugar in our opinion does no harm provided there is no glycosuria or acidosis. Dehydration as shown by a dry tongue and skin is, as a rule, readily corrected when the glycosuria is checked. All the water, broth or tea desired should be allowed; salt or salty foods will further the retention of fluid.

Fever and leucocytosis are indicative of an active infection.

The heart should be examined carefully; tachycardia often is a symptom of a severe degree of desiccation and disappears promptly when this is remedied. Coronary artery disease is frequently present in diabetes, especially in patients over 50 years of age, hence angina pectoris, myocardial degeneration and coronary thrombosis must all be sought for and substantiated or eliminated as factors in the situation.

The amount of generalized arteriosclerosis and the blood pressure should be particularly considered so as to obtain an estimate of the condition of the arteries which has a bearing on the state of the heart muscle, the likelihood of cerebral accidents and the circulatory efficiency in the affected limbs.

While it is very desirable for the physician to be thoroughly informed on the points stressed above, a routine general physical examination should never be neglected.

b. **INSPECTION.** The character of the lesion should be noted; the location, the size, the shape, moist or dry gangrene, the presence of discharge, whether purulent or gangrenous, or both, the existence of healthy granulation tissue, the formation of the new skin at the edge of an ulcer, the presence or lack of a line of demarcation about gangrenous areas, the possible redness and lymphangitis in the surrounding tissue, are all of obvious significance in forming an opinion of the severity of the process. Distended veins and cyanosis of the dependent limb, are indicative of vascular obstruction.

c. **PALPATION.** Coldness is a sign of deficient circulation; it should be carefully mapped out and the extent of a very serious degree of arterial occlusion can be determined in this way. Heat in the tissues surrounding the lesions points to an advancing infection; on the other hand, the absence of redness and heat do not in these cases, with their poor tissue resistance, certify that bacterial invasions are non-existent. The pulsation in the dorsalis pedis, posterior tibial and popliteal artery of both sides should be determined; the patency of these vessels and the effectiveness of the blood flow through them can be measured with reasonable accuracy by the palpating finger. Gentle pressure should be made upon the skin surrounding an ulcer or gangrene; the expression of a drop or more of pus or serous material

signifies that there is a destructive process going on. By gentle probing the whole area should be explored and the extent of any sinuses determined. It is almost incredible to what an extent creeping infections have a tendency to proceed in diabetes. In one case that had an infection just below the neck in the upper interscapular region that was not healing satisfactorily, a sinus extending down to the sacrum was revealed. The infections will not heal, but only extend unless such sinuses are laid wide open to their very tip; hence the great importance for thorough though gentle (avoid formation of emboli) palpation and probing of ulcerations and gangrene in diabetes. Probing will also reveal the condition of underlying bone; when there is osteomyelitis or denuded bone in a wound, there is almost no prospect of healing unless the diseased bone is removed.

d. **X-RAY EXAMINATIONS** reveal an existing osteomyelitis and the extent of calcification in the arteries. When calcinosis of the blood vessels exists it is probable, though by no means certain, that their lumen is much diminished and often obliterated. By far the most satisfactory information concerning the state of the arterial circulation is obtained from arteriograms. The extent of complete obstruction of the major vessels in the legs that may exist is very surprising. The information furnished by arteriograms concerning the effectiveness of the normal or compensatory collateral circulation is by far the most reliable and complete for judging the possibility of successful healing and for the intelligent guidance of therapy in conservative or radical paths. The late after-effects of the substances used for intra-arterial injections, some feel, have not been completely discounted; the carrying out of arteriograms should be undertaken only by those especially versed in this technique.

e. **SPECIAL EXAMINATIONS.** The determination of the degree of pulsation in the various vessels by instrumental means (oscillometer, recording sphygmomanometer) furnishes a satisfactory ocular demonstration of what is obtained in a simpler fashion by palpation. When such machines are available, they should be welcomed; however, it is doubtful if they add a great deal to the information obtained by the methods already outlined. Diminished circulation in the affected part may be due to vascular spasm and not to arterial occlusion. This can be determined in various ways. The usual one is to ascertain the rise in the temperature of the skin of the feet thermoelectrically after anesthetization of the posterior tibial nerves. These procedures yield suggestive and helpful results in some cases, but it is doubtful whether an attempt at their routine employment is justified in any but well endowed clinics.

TREATMENT. This is considered under three headings:

1. General preventive treatment.
2. Local preventive treatment.

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Oto(ear)-laryngo(throat)-rhin(nose)-ology
Bronchoscopy-Esophagoscopy
Ionization for Hay Fever

3. Treatment of actual lesions.

The effects of arteriosclerosis in diabetes are seen most often in the coronary vessels (angina pectoris, coronary thrombosis) and in the lower extremities (ulcerations, gangrene, infections). The notes on general preventive treatment obviously apply to arterial changes throughout the body. The discussion on local preventive treatment and treatment of the actual lesions confines itself to the management of the changes in the lower extremities; to a great extent the same form of therapy is applicable to the skin and subcutaneous complications of diabetes wherever they are located; the treatment of sclerosis of the coronary, cerebral and other arteries in diabetes, when such changes are once established, is no different from those complicating old age or secondary to other diseases.

1. GENERAL PREVENTIVE TREATMENT. This is the most important part of the therapy of diabetic arteriosclerosis. Many patients will not be very enthusiastic about it because it is much more pleasant to cross a bridge only when one comes to it, but it is necessary to convince diabetics that under the circumstances, this is a disastrous policy. Final conclusions in regard to the influences which accelerate and intensify the development of arteriosclerosis in diabetics, have not been reached. In the meantime, there are many divergent views as to what the causes are. We believe that if the urine is kept sugar free and a normal state of nutrition is maintained, arterial changes will not be unduly accentuated in diabetic subjects. The following taken up in the order of their importance, are the means of general preventive treatment.

A. AVOIDANCE OF POLYURIA AND DESSICATION BY MAINTAINING THE URINE FREE FROM SUGAR. This is the most important preventive measure. A patient who is not mindful of this requirement and who refuses to make the sacrifices necessary to prevent glycosuria, polyuria and dessication, within ten years stands more than an even chance of developing gangrene or cataract, or both. Hyperglycemia without glycosuria, is probably of no significance as far as the injury to the blood vessels or other tissues is concerned.

Less urgent, but worth putting into effect as preventive measures for arteriosclerosis, are:

B. CONTROL OF HYPERCHOLESTERINEMIA

This is usually accomplished when the urine is kept free from sugar. There are a few diabetics in whom at times, at least, this does not hold true. In such instances it may be necessary to curtail the fat intake. Such a double regulation, of both the carbohydrate and fat metabolism, generally succeeds in controlling the cholesterinemia even in the most obstinate cases.

C. PREVENTION OF HYPOGLYCEMIC REACTIONS.

The excessive lowering of the blood sugar resulting in a compensatory secretion of epinephrine may favor the development of arteriosclerosis, aside from the disagreeable and sometimes serious symptoms of hypoglycemic shock. At the present time this is only a theoretical possibility based on animal experiments but we believe it merits consideration. Small, frequently repeated doses of insulin are

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more effective in controlling the carbohydrate metabolism, and are less likely to produce hypoglycemic reactions than single, large doses. This is one of the fundamentals for the successful treatment of diabetes.

- D. OBESITY imposes an added strain upon the arteries as well as upon the carbohydrate utilizing functions, and although it should be avoided in all persons, this is doubly true for the diabetic.

2. LOCAL PREVENTIVE TREATMENT. The determining cause of gangrene or infection in the arteriosclerotic extremities of diabetics is one of two: either a perforation or break of some sort of the skin, or trauma resulting in a bruise even though the skin is not broken. It is important to realize this because no amount of washing or manicuring of the feet and lower extremities is of great prophylactic value. The skin of these patients is as resistant as that of normal persons; it is the circulation in the underlying tissues that is at fault. We have not hesitated in many cases to use rather irritating applications, such as full strength Whitfield's ointment, provided the skin was intact; on the other hand we have seen large, gangrenous patches result from the use of tincture of iodine in open wounds.

This conception, that the diseased tissue which is to be treated lies beneath the skin and not in it, simplifies the local preventive therapy a great deal. Ordinary cleanliness, of course, should be practiced. All cuts and bruises must be avoided; great care must be taken that there is no excessive exposure to heat or to cold. It is necessary to warn diabetics that although they may have pains in their extremities, usually ascribed to neuritis, yet their sensations to cold, heat and touch may be decidedly dulled. The result is that they may stub their toes be too vigorous about applying heat, or careless in walking through snow and ice. Woolen socks and comfortable shoes speak for themselves. Special soaps, extra bathing and needless manipulation of the feet, do more harm than good.

The feet of diabetics are very prone to callous formation. Such thickened areas of the skin furnish points of impact through rubbing from the outside, and thus lead to bruising and ulceration. Consequently callous growths on the feet must be carefully removed and appropriate shoes worn so that there will be no recurring pressure on such spots.

3. TREATMENT OF ACTUAL LESIONS. This is a very trying and arduous task both for physician and patient. There are innumerable factors to consider that always make judgment difficult and frequently fallacious.

A small cut, ulceration or bruise should be treated with the utmost conservatism. The first problem is whether bed rest is advisable. Immediate hospitalization is frequently suggested; this is the only alternative if the gangrene is spreading, if there is a distinct local infection or if walking is painful. When there are no such complications, we believe that the best results are obtained when the patients are up and about and attending to their daily routine. Most of these cases have a marked generalized arteriosclerosis and, in certain respects, are old beyond their years; when they go to bed for weeks or months they are very prone to suffer distinct physical

deterioration from which they may not rally. The slight trauma incident to careful walking apparently does no harm; we are under the impression that the exercise is beneficial rather than otherwise. Soft shoes with firm soles, medium weight white woolen socks changed daily, and cleansing of the feet with cold cream or oil, but no water, every morning and evening, are all essential. Patches of dry gangrene that are so small as to permit ambulant treatment, require no dressings whatsoever. The local dressing for ulcerations must be very thin so that it causes no point of pressure within the shoe; a single layer of lint with a little ointment suffices. At night bland ointments (boric acid, balsam of peru, 5 per cent ichthyol, 5 per cent scarlet red, 1 per cent phenol, etc.) or non-irritating wet dressings (boric acid, Dakin's solution, etc.) should be applied. One form of application should not be used for too long a period. Satisfactory progress is shown by the demarcation of gangrene or, in ulcers, by the shedding of the greenish yellow sloughs, the appearance of a pinkish pellicle where the skin joins the raw surface and a gradual closing up of the area by the formation of new skin. The physician should inspect the wound daily or at least every two or three days. The wound or ulcer should be explored by gentle probing; the tendency of the ulcers or wounds to spread by small creeping channels is remarkable; when this occurs, usually the wound will not heal unless such tracts are opened or overhanging skin is removed. Necrotic tissue, however insignificant it appears to be, should not be pulled off; if there is a great deal of it it may be grasped with forceps and cut away at such a point that the underlying granulation tissue is not touched. Cuts may be allowed to close by first intention; ulcerations should be prevented from scabbing over, as the secretions and necrotic material accumulate beneath such crusts and are likely to cause the burrowing in the subcutaneous and deeper tissues already alluded to. Healing, when it takes place, is a slow and tedious process and the meticulous attention of both patient and physician over a long period is very necessary; it often seems an irksome and useless procedure while it is going on but the penalties of neglect may be very great.

If the lesion progresses, that is when it does not remain stationary or show signs of healing, then the patient should be hospitalized. The dressings mentioned for the night in the ambulant treatment, may be constantly applied. In these cases, if gangrene is spreading, some sort of antiseptic dressing is required. Cradles over the involved lower extremities should be so constructed that there will be no trauma of the feet. Ulcers of the heels should be guarded against from the beginning as they are likely to form especially in restless subjects.

Various additional therapeutic measures have been used. They have all been widely practiced at times and enthusiastically endorsed, but they have

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failed more often than they have succeeded. The use of lights, yellow or red, or other means of producing heat are almost universally employed; there is real danger of severe and serious burns from them. because of the lack of sensation to heat in these cases; care must also be taken that ulcers or open sores do not crust over with the use of dry heat and thus favor the development of infections through lack of satisfactory drainage. Exercises for the leg, allowing the foot to be dependent, then keeping it flat on the bed and, subsequently, elevating it on pillows or a specially contrived board, maintaining each position for from three to five minutes and repeating the cycle for about thirty minutes, constitute what are known as Buerger's exercises. With such active motion of the legs, as with any rough manipulation, there is a possibility of embolism which should not be disregarded. The use of heat, light and exercise are supposed to increase the local circulation; they serve to keep the patient interested and content but do not appear to modify the course of events a great deal.

For the promotion of the blood flow through arterial dilatation a number of procedures have been advocated. Among these may be mentioned the injection of foreign proteins, the injection of acetylcholine and the use of hypertonic saline infusions. The use of the first two has been largely abandoned because of unsatisfactory results. The infusions of 300 c.c. of 3 per cent salt solution every three to four days has been enthusiastically advocated by Samuels: under this treatment lines of demarcation are supposed to form, the mummified parts slough and the wounds heal in the course of time. The effectiveness

of this form of treatment remains to be determined.

If healing is not evident within a week or two of bed rest, or if the process advances, the question as to operative procedures arises. These are either direct or indirect minor operations or amputation of the extremity.

The type of operative procedure may be guided by the information gained through the special investigations previously mentioned. The points in addition to the spreading of gangrene and advancing infection which should be particularly considered are: the presence or absence of an underlying osteomyelitis, the degree and level of occlusion in the larger arteries as determined by palpation, X-ray, arteriogram and oscillometer, and the existence of arterial spasm which cuts off the blood supply as indicated by the determinations of the skin temperature before and after vasodilator stimuli have been made.

Local direct operations consist of incision and drainage of infected areas, or of partial or complete amputation of one or more toes. Incisions or amputations should be carried out so that there are no pus pockets or sinuses of any sort and that all drainage is free and in a downward direction while the patient is recumbent. Any violation of these principles, even if generous drains are inserted into covered or cupped areas that are ordinarily considered adequate in surgery, will usually lead to creeping infections into the neighboring tissues.

Local indirect operative procedures are those designed to bring about dilatation of the blood vessels in the affected part and thereby increase the volume and rate of circulating blood. Those generally em-

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ployed are injections of foreign proteins or acetylcholine, venous ligation, and various forms of sympathectomy. The results of these measures do not appear to be satisfactory though they may be tried in suitable cases provided a physician skilled in their use is available.

It is extremely difficult to come to a decision regarding the advisability of amputation because so many and various facts must be considered and because the patient, his family and friends, and his physician naturally hesitate to recommend such a radical step.

It is necessary to realize that the diabetic with gangrene of the extremities is very much handicapped and does not react like other patients with the same affliction. As a rule, diabetics who have gangrene have no longer than two years to live; even if they recover from the immediate disease, they are subject to recurrences and, because of the generalized arteriosclerosis, to coronary thrombosis and at times to cerebral accidents. With such a time limit of existence in prospect, it is not rational to urge a treatment which will last for months and only offers a doubtful prospect of saving the leg; life's limited outlook under the circumstances, is more worthwhile with crutches or an artificial limb than between sheets. The prolonged treatment of diabetic gangrene is costly in itself and, in addition, it deprives the subject of all wage earning while it lasts; this may be another argument for early operation in many instances. Prolonged rest in bed for elderly persons brings about physical deterioration; when this is associated with infected areas of gangrene, however mild the infection may be, toxic and exhaustion psychoses very often develop. In many cases, these states are either contributing factors to a fatal issue or remain permanently, if there is undue hesitation about necessary radical surgery. For these reasons, it has seemed to us that amputation is more often delayed too long, than performed too early.

Most surgeons prefer to amputate in the mid-thigh region and not at a lower level. We believe this to be correct. The stump is more certain to heal promptly and is just as useful when the more radical operation is done.

Gangrene of such an extent that it cannot possibly heal, a persistent temperature, a spreading infection or confinement to bed for more than a month, are all good indications for amputation. Occasionally moist gangrene, due to venous obstruction, is encountered. In such cases the gangrene may spread with unbelievable rapidity and an emergency amputation will be necessary to save life.

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The Diagnosis and Management of Some of the More Common Functional Disorders of the Colon

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Investigation has shown that fully one-third of all adult patients who complain of digestive disturbances have some functional disorder of the colon. During the last twenty years, since the roentgen ray has come into general use in the diagnostic study of diseases of the digestive tract, more and more attention has been focused on the colon.

In 1825 J. M. Good first accurately described one variety of functional disorder of the colon which he called "tubular diarrhea." It remained for DeCosta in 1871 to point out that the symptoms of this disorder were not the result of a true inflammation. Nevertheless, the numerous names which have been given to this condition indicate that most observers have held to the view that there must be some morphologic basis for the symptoms. For this type of disorder recent writers, however, have used such terms as "spastic colon," "irritable colon," "unstable colon," all of which imply the functional nature of the disease.

Progress has been retarded both in the diagnosis and the management of these functional disturbances of the colon because of failure to apply in the clinic certain established physiological principles. Many physicians, especially the older group, have been so in the habit of thinking of every deviation from the normal in terms of morphologic change that they find it difficult to accept the fact that functional reactions to disease differ from those in health only in degree.

Functional disorders of the colon are undoubtedly on the increase. Perhaps one reason for the increased incidents is the failure of the evolutionary changes in the digestive organs, especially the colon, to keep pace with the changes in diet and habits of life which modern civilization has brought about. Undoubtedly one reason is that the average layman, and unfortunately many physicians, still think of the colon as merely a receptacle for the indigestible food residue and other waste products. In other words, as a body sewer, which for health's sake, must be kept as clean as possible. Before we can interpret intelligently any symptoms referable to the colon we must have a clear conception of its function. Physiologists are now agreed that in addition to serving as a receptacle for the unabsorbed chime from the small intestine the caecum and ascending colon and in the completion of the digestive and absorptive process. The most important function of this portion of the large bowel is the absorption of water.

ETIOLOGY

AGE: Although these functional derangements of the colon have their inception during infancy and childhood, they are seldom encountered clinically until adult life. It is not uncommon to see them for the first time after mid-life, but a carefully taken history will usually elicit the fact that the symptoms

first appeared at a much earlier period.

SEX: These functional disturbances of the colon are four times as common in women as in men.

OCCUPATION: Rarely is spastic colon the cause of digestive trouble among those who do manual labor. On the other hand, it is common among those whose occupation imposes a constant mental strain, and also among women who have no particular responsibilities, but who live in a social whirl taking no exercise, eating and sleeping irregularly and keeping themselves constantly stimulated with tobacco, coca-cola and alcohol. In other words, the lack of occupation is responsible for more cases than overwork. Obviously, therefore, the condition will be encountered more often in urban than in rural sections. Lack of work and worry over enforced idleness account in a large measure for the increased incidence of these cases during the last four or five years.

RACE: We have seen no statistics bearing on the racial incidence of irritable colon, but it is certainly rare in the negro race, at least in the pure blood negro. This infrequency may be explained in part by his occupation of manual laborer. A more important reason, in our opinion, is that he lacks the predisposing aptitude.

HEREDITY: Many of these patients start life with the handicap of an unstable nervous system. As long as life moves smoothly for them, without shocks or jars all is well with the digestive tract. But let them encounter a storm, as for example financial reverses, illness in the family or domestic conflict, and they at once become colon conscious.

HABITS: The most important factor of irritable or unstable colon is found in improper habits of life.

Among those constipation usually takes precedence and also presents a problem in which it is often difficult, not infrequently, even impossible, to decide which is cause and which is effect, the constipation or the irritable colon. In most cases the remedy employed, whether it be purgatives or enemata is more harmful than the constipation. In either event a vicious cycle is created. The more these artificial means of evacuating the bowels are employed, the more irritable the colon becomes and in turn the more obstinate the constipation. Clever advertising both by the printed page and by radio has greatly increased the use of purgatives. It is surprising how little common sense the average layman uses in matters pertaining to the care of his body. Even educated people will often, without question, accept as authoritative any statement in print or heard over the radio regarding this subject, and in no field are they so gullible as in matters pertaining to the digestive tract in relation both to diet and to drugs. Next to purgatives improper diet and improper habits of eating tend to increase the irritability of the colon. For example, diets containing an excessive amount of roughage often aggravate rather than aid the condition.

THE INTESTINAL INFECTION: We see a case occasionally which dates from an attack of dysentery, amoebic or bacillary. Less frequently protozoal infection may be a predisposing factor. Flagellate infections are sometimes found in the diarrheal forms of irritable colon, but it is doubtful that these are more than incidental findings.

SYMPTOMATOLOGY

PAIN: The presenting symptom in most cases is

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pain. It is seldom described as colicky, but is usually referred to as a dull ache or a sense of pressure or fullness. Sometimes it amounts merely to an uncomfortable, gaseous distention and borborygmus. The location of the pain is variable. Most patients locate their maximum distress in the left lower quadrant. Some are "abdomen conscious" at all times. Others have their symptoms intermittently. There are a few in whom the pain tends to recur at a regular interval after meals, thus imitating symptoms of duodenal ulcer.

Tenderness can be elicited over some part of the colon in practically all cases. When it is in the left lower quadrant the descending colon, especially the sigmoid, can usually be palpated and has a rope-like feel; at the same time the caecum and ascending colon are often distended. With the tender, spastic colon muscular rigidity and superficial hyperaesthesia are not present as they usually are when there is a definite inflammatory process.

GASTRIC SYMPTOMS: The appetite varies from normal to complete anorexia. Sour stomach is complained of occasionally. Intermittent nausea is common, but vomiting is infrequent. A few patients attempt to relieve the epigastric fullness and pressure by vomiting. With some this practice becomes a habit. We have such a patient now who claims that she has vomited a part of every meal for eighteen months. These patients are prone to exaggerate as to the amount and frequency of the vomiting. It is a good plan in all such cases to put the patient in bed and have a nurse to keep a complete record both as to the time of the vomiting and the quantity.

DIARRHEA: A small percentage of these patients with functional colon disorders of the spastic or unstable type complain of diarrhea. In some there is merely an abnormal bowel frequency, but with normal stools. In others the stools are loose, seldom watery and contain an excessive amount of mucus. In some instances the stools consist of mucus only, in others the feces are covered with mucus. This mucus varies from clear, yellowish jelly-like masses to long strings, and at times complete casts of the colon. Its passage is usually accompanied by colicky pain of considerable intensity, and after the movement there is often the feeling of weakness and complete exhaustion.

DIAGNOSIS

SIGMOIDOSCOPIC EXAMINATION: No case has been completely studied unless the clinical examination has been supplemented by a proctoscopic and sigmoidoscopic examination. In the uncomplicated cases the mucosa will be found, on the removal of the mucus to have a smooth, pink healthy appearance. It is not uncommon to encounter a spasmodic stricture at the recto-sigmoid junction, which interferes with the passage of the sigmoidoscope. This spasm can be overcome by applying a twenty-five percent solution of magnesium sulphate. By this simple test an organic stricture can be differentiated from a mere spasm.

ROENTGEN EXAMINATION: Every case of suspected colon disease should have a complete gastrointestinal roentgen study. There is a difference of opinion as to which yields the more information the ingested barium meal or the barium enema. If there

is an element of doubt as to the findings both methods should be employed. Finally it should be remembered that a negative roentgen ray report does not exclude a functional disease of the colon.

DIFFERENTIAL DIAGNOSIS

The systems of spastic, irritable or unstable colon so readily simulate the symptoms of diseases of a greater magnitude that functional disorders may not at first be considered in the diagnosis. These diseases are chronic appendicitis, gall bladder disease, peptic ulcer, amoebiasis, ulcerative colitis and simple colitis.

TREATMENT

A full appreciation of the psychic as well as the physical effects of disorders of the sympathetic and parasympathetic nervous system is a sine qua non to the successful management of functional colon problems of the spastic type. Many patients begin life with an unstable nervous system which renders them incapable of adequate adjustment to environmental changes. A complete clinical study of any case, therefore, must include a careful inquiry into the various conditions affecting the personal and domestic life of the patient. The family physician who has a knowledge of the patient's "constitution" in all that the word implies and also a sympathetic understanding of the domestic problems is in a position to deal with some of these cases more effectively than the specialist, who too often considers his work complete when he has discovered some anatomical lesion and gives it a name.

Most patients with these functional disturbances are obsessed with "cancer phobia" or the fear of some other serious organic disease. They belong to that unfortunate group who are driven by anxiety from one doctor to another, with each consultation probably getting a different opinion or getting at least a different name for their ailment. Such diversity of opinion naturally increases the patient's fears. Among the erroneous diagnoses which are often made chronic appendicitis and chronic gall bladder disease usually take the lead. All too often the appendix or the gall bladder has already been removed, perhaps both and without relief. Obviously therefore, the first step in the management of these cases is reassurance. It will, however, fall on deaf ears unless it is based on a thorough and painstaking examination. The objective to be obtained in the treatment are two-fold. First, to allay the patient's fears, and second to restore to normal the secretory and motor functions of the colon. Treatment of the psychical

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aspect of these cases is, of course, an individual matter. Nor is it possible to formulate a general plan applicable to all for restoring normal function, since no two of the cases are alike.

DIET: The essentials for a proper diet are, first, that it contains a minimum of residue. This provision applies to the constipated as well as the diarrheal type. Such foods as bran, and bran bread which have become popular in the treatment of constipation and all coarse vegetables as well are best served in the form of a puree. Second, the diet must contain an abundant of all the vitamins and minerals. Many of these patients suffer from "food phobia" which must be overcome before they can be persuaded to take a well balanced diet. If there is much gaseous distention it is best to restrict sugars and starches and urge more proteins, especially tender lean meat and an abundance of fats in the form of cream, butter and olive oil. Third, the patient must be urged to take an abundance of liquids. We find it a good plan to specify a definite amount of water to be taken each day. If gastric analysis shows a low acidity, it is best that only a small amount of water be taken with meals. On the other hand if there is a hyperacidity a generous amount of liquid with the meals is advantageous. Another important detail in the dietary treatment is the avoidance of overcrowding the stomach. It is better to take small amounts of food at frequent intervals than to overeat at any one time. The patient should rest as much as possible, preferably lying down after each meal.

The discussion of the dietary management would be incomplete without the mention of an allergic

factor. If the patient is an allergic individual or if there is history of migraine or allergy in the family, the possibility of food allergy must be considered. In such cases a complete allergy study must be made or an elimination diet plan as suggested by Rowe. We have found the latter method more satisfactory than the skin test method.

OTHER TREATMENT: To promote normal secretory and motor functions of the colon purgatives of all kinds should be prohibited. When suddenly withdrawing laxatives which perhaps have been a part of the day's routine for years it is necessary to reassure the patient that no harm will result if the bowels fail to move for two or three days. When the purgatives are withdrawn an ounce of mineral oil by mouth twice a day and a rectal injection at bedtime of three to six ounces of warm olive oil to be retained over night will usually suffice to obtain satisfactory elimination. If these measures fail, then it is permissible to take an enema provided only warm saline solution is used. Such things as soap suds and other irritating solutions should be prohibited. Before the normal motor functions can be established or re-established it is necessary that absolute regularity of habits be adopted.

In the diarrheal cases rest in bed must be insisted upon. This with the application of heat and the exercise of voluntary control will alone greatly reduce the number of bowel movements. Full therapeutic doses of belladonna together with mild sedatives such as the bromides or phenobarbital will greatly reduce the abdominal discomfort. Where facilities are available physical therapy will be found to be

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most helpful. This will, of course, not take the place of the other therapeutic measures already mentioned. In the absence of any physiotherapy apparatus the simple application of hot fomentations or the Priestnitz pack will be very soothing to the sensitive abdomen in the diarrheal cases.

In conclusion it is well to emphasize the need for individual care. No one plan of treatment can be suited to all cases. As already stated a prime requisite to an intelligent handling of these cases is a thorough understanding of the reactions of the vegetative nervous system. Finally, it is well at the outset to impress all patients with functional disorders of the colon that they must not expect immediate results. Success comes only to those who are willing to abandon their own ideas and follow with meticulous care every detail in the prescribed treatment.

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Intra-Venous Magnesium Sulphate Treatment of Spider Bites*

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Probably the only poisonous spider in this part of the United States is the *Lactrodectus Mactans*, commonly known as the "black widow," or "hour glass spider," most commonly found in dark, damp places, such as cellars, garages and privies. I have been particularly impressed by the frequent number of spider bite cases occurring in the Mississippi Delta. In a short year's time I have treated six cases bitten by the "black widow" spider, and this paper will be merely a summary of them and their response to Intravenous Magnesium Sulphate.

There are three characteristics that these cases almost invariably present:

1. A history of having been bitten by the black widow spider a short time previously.
2. A mild sting at the site of the bite to which little attention was paid.
3. The appearance of being acutely, agonizingly ill, with restlessness, inability to remain still and complaint of unbearable pain in back, abdomen, and sometimes the chest.

A frequent sign is abdominal rigidity. Nausea, a desire to urinate often, urinary retention, or an urticarial rash may also be present.

There is an elevation in blood pressure, slow, often weak pulse, rapid respiration, and profuse perspiration with general weakness.

The pain is severe and persistent, and may last from twenty-four to seventy-two hours. The usual $\frac{1}{4}$ grain of morphine fails to relieve; consequently frequent and large doses of opiates are required.

Intra-venous Magnesium Sulphate, while not a specific for arachnoidism, is apparently far superior to opiates in the treatment of these cases. A 10 c.c.

ampoule of 25 per cent Magnesium Sulphate injected into the vein as early as possible after the bite gives immediate alleviation from the distressing symptoms and pain. In a few cases a second injection may be required several hours later.

CASE REPORTS

Case No. 1. Colored Male. Age 38. Enjoyed good health until the onset of illness caused by the bite of a black widow spider on the penis while in out-house. He killed the spider, and paid no attention to the sting until he became nauseated and began vomiting. When I examined the patient, approximately two hours after the bite, he was acutely ill, sweating profusely, very nauseated and complaining of severe pains in the back. Respiration was rapid, temperature 100, pulse 80, B. P. 134-78. There was no swelling about the site of the bite. Hot water bottles were applied, and $\frac{1}{2}$ grain morphine given hypodermically. Three hours later $\frac{1}{2}$ grain more was required, and in five hours another was given, trying to relieve the pain. For two days the patient had to be catheterized, and for three days he was unable to move the lower extremities. On the sixth day the patient sat up in bed, and on the seventh was allowed to walk about the house. Magnesium Sulphate was not given.

Case No. 2. White girl, nine years of age. Put on some old clothes to play in the rain. A black spider crawled out on her neck and bit her beneath the chin. She ran to her mother who put some wet soda on the site of the bite. The child was apparently all right for about one hour, before she began to cry with pains in her neck and back. She was brought immediately to my office, and given a 10 c.c. ampoule of 25 per cent Magnesium Sulphate. The face and neck had become swollen, and covered with urticarial rash. Immediate relief from the pain was obtained. The child was able to go home after a short time. By the next morning the swelling, as well as the rash, had disappeared.

Case No. 3. White woman, age 29. Was bitten on right finger while picking up a board in the garage. After a few minutes the hand felt numb, with sharp shooting pains up the arm, severe headache and pains in back and chest, with nausea.

Physical examination showed B. P. 154-80, pulse 64, and appeared acutely ill. Temperature normal. The site of the bite was slightly inflamed. 10 c.c. of Magnesium Sulphate was injected with immediate relief from pain. However, in about seven hours I was called back because of severe pain in the back. Her B. P. at this time was 138-74. 5 c.c. Magnesium Sulphate was injected. Patient had a good night's sleep, and was able to be up next morning, apparently suffering no ill effect.

Case No. 4. Negro man, age 28. While repairing cotton house, was bitten on forearm by black spider

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which he killed, and continued with his work. After about an hour he became nauseated, and had a desire to urinate frequently; began to feel weak, and had a numbness about the arm. Before he could reach his home, which was about one quarter of a mile away, he became acutely ill. He began vomiting, and had a shortness of breath, with severe pain in back of head, paralysis of legs, and a profuse sweating. He had to be carried.

Physical examination showed B. P. 158-84. Temperature 99.8, Pulse 70, respiration rapid, labored, left forearm swollen, and there was some rigidity about the abdomen.

The patient was given Magnesium Sulphate at once, with marked improvement of toxic symptoms. Within three hours he was free of all pain. However, the paralysis of lower limbs continued until the next day, when he was given another injection of Magnesium Sulphate. On the third day the patient was up.

Case No. 5. White boy, age 10. Was bitten on knee while playing under the house, and claimed to have seen the spider. A physical examination two hours later revealed a marked swelling just above the right knee. Patient complained of pain in right leg and back. Pulse normal, temperature normal. B. P. 122-70. Marked muscular rigidity over abdomen. Hot applications were applied to the abdomen. 5 c.c. Magnesium Sulphate was injected intra-venously. Patient spent a restless night, had to be catheterized once. On the second day the patient was quiet, complained of no unusual pain, and on the third day was up, and apparently normal.

Case No. 6. White man, age 56. Operating filling station. In removing radiator cap from old car was bitten on side of little finger on right hand. The spider was seen by several people. The patient continued working, thinking nothing of the sting at the site of the bite. About forty-five minutes later one of his employees heard him groaning in the back of the station, and found him vomiting, suffering unbearably with his back and complaining of being unable to move his right arm or hand.

Physical examination showed B. P. 180-80, pulse 74, respiration 34. Profuse sweating, cyanotic in appearance. There was slight redness, and some swelling of little finger of right hand. $\frac{1}{4}$ grain morphine was given, with no relief. 10 c.c. of 25 per cent Magnesium Sulphate was injected intravenously. Within twenty minutes the patient was quiet, the nausea stopped, and he fell asleep. The next morning the B. P. was 144-78. His physical condition good; that afternoon he was back at work.

CONCLUSION

1. There is a considerable number of spider bite cases in the Mississippi Delta.
2. While this series of cases is rather limited in number, and no definite conclusion should be drawn, the immediate result of Intra-venous Magnesium Sulphate is very striking.
3. Magnesium Sulphate can be injected with safety, and is not objectionable as in the case of opiates.
4. One, and at the most, two injections will alleviate the symptoms, while several injections are

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S. T. RUCKER, M.D., in charge, Memphis, Tenn.

E. R. CLARDY, M.D.,
Associate

usually required where morphine is used.

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The Treatment of Pernicious Anaemia*

DR. B. H. HIGDON
 Sunflower, Miss.

Pernicious anaemia has taken its place among the diseases due to deficiency of some principle normally present in the body, and the treatment of which depends upon substitution of the lacking substance. By the use of the anti-anaemic principle contained in liver it can be treated with a certainty of success such as holds in almost no other condition. There is no reason why any sufferer from uncomplicated pernicious anaemia should not be restored to, and maintained in a state of perfect health.

In order to attain this there are two essentials:

- (1) Correct diagnosis. (2) Appropriate doses of the anti-anaemic principle.

Pernicious anaemia can readily be confused with other types of anaemia which will not respond to treatment with the anti-anaemic liver principle. Iron therapy has proved of no value in the cure of pernicious anaemia, and, conversely the treatment by the active liver principle is of practically no use in the microcytic anaemias. Then it is of prime importance that an accurate diagnosis be made.

A diagnosis cannot be made apart from the use of laboratory methods; and even with the use of the laboratory it may be difficult. The following procedures are absolutely essential for the establishment of a diagnosis of pernicious anaemia.

Percutaneous estimation of haemoglobin.

Enumeration of red blood cells.

Examination of a stained blood film.

Some method of determining the variability in the size and shape of the red cells.

Fractional test meal.

The blood picture alone is not sufficient to make a firm diagnosis. The examination of the gastric contents is also an essential step.

The prognosis of pernicious anaemia five or six years ago was generally fatal. During remission the disease might temporarily release its hold, but eventually it would kill. Treatment was merely supportive and palliative, the hope being to tide the patient over to another remission.

The therapeutic effectiveness of liver and fractions of liver in the treatment of pernicious anaemia is well established. In 1926 Minot and Murphy demonstrated the value of a liver diet in the treatment of pernicious anaemia. Every patient with uncomplicated pernicious anaemia treated by a diet rich in

whole liver showed prompt and distinct remission, the only ones failing to remain in remission being those who did not adhere to the diet.

Minot determined that the effective dose of the anti-anaemic principle was, roughly and within wide limits, that contained in half a pound of liver daily. The active substance effective in pernicious anaemia is only a small part of whole liver. In order to ingest this small quantity of active substance it was necessary for patients to eat whole liver in amounts that few could tolerate for more than a short time. The isolation from liver of a fraction containing the active principle in high concentration was reported by Cohn et al.

This marked a decided advance in liver therapy of pernicious anaemia. It is highly effective but the patient is still subjected to the inconvenience of having to consume from 12-16 Gm of liver extract daily.

Subsequently Castle and his associates demonstrated that the product of the interaction of a sub-minimal amount of liver or liver extract and a small amount of stomach tissue is highly effective in the treatment of pernicious anaemia. The purpose of this paper is to report the results observed from this treatment in a case which has recently come under my observation. Extralin, a preparation manufactured by Lilly, was used.

Patient: A white female, 29 years of age, married and the mother of two children. I was called to see her July 3, 1934. Her chief complaint was constant and extreme fatigue, dyspnoea on slight exertion, loss of weight and nervousness. Her present illness began about six or eight months ago, and was gradually growing worse. Her previous health had been fairly good, with the exception of having been told about three years ago that she had pellagra.

Physical examination showed a greatly undernourished patient weighing 96 lbs. with marked pallor of the mucous membranes. The respirations were not labored but rather rapid. The face was slightly puffy. The teeth in fairly good condition, tonsils small, and tongue smooth. Temperature 100.6, pulse 104, and blood pressure 116 over 62. The heart was accelerated, regular, and no murmurs heard. Lungs resonant throughout. Abdomen soft, the spleen enlarged, being palpable about two fingersbreadth below costal margin. Vaginal examination showed a retroverted uterus with an eroded cervix. Extremities thin, and knee jerks exaggerated.

Urinalysis—Reaction acid, sp. gr. 1020, albumin a trace, sugar negative, casts negative, pus cells many.

Blood count—Hb. 30, red blood cells 1,000,000, White blood cells 6,000, lymphocytes 32, Monocytes 2, Neutrophils 64, Eosinophiles 2. Blood platelets 140,000, Negative malaria. There was marked anisocytosis, and polychromosis, with a few nucleated red cells. Blood Wasserman was negative.

Fractional test meal showed Tru H C L 0-0-0, total acidity 11-21-26. With these clinical symptoms,

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*Read before the 23rd Semi-Annual Meeting of the Delta Medical Society, Greenville, Miss., October 10, 1934.

blood picture, and achlorhydia we felt justified in making a diagnosis of primary pernicious anaemia.

On account of her blood being so terribly low we felt that a blood transfusion would be of much benefit, so she was given 200 cc of citrated blood.

She was instructed as to diet, and given dilute hydrochloric acid, 20 drops before, 20 drops with, and 20 drops after each meal. She was also given Extralin, three capsules four times a day.

September 17, 1934, about ten weeks after beginning the treatment, patient reported for another examination. At this time she weighed 109 3-4 lbs., a gain of about 15 pounds, and feeling very much better, being able to do most of her work. Physical examination showed blood pressure 114 over 70, temperature 97.4, pulse 68. Blood examination showed haemoglobin 80, a rise of 50, and the red blood cell count 4,740,000, a rise of 3,740,000. Blood platelets 109,000, a reduction of 31,000. Coincident with the improvement in the condition of the blood, the patient showed quite an improvement in her general condition, sense of well-being and co-operation. She was much improved in every way. Not only was there a change in the number of red blood cells, but a marked change toward the normal in the shape, size and character of the cells observed in smears.

With the remission obtained in this case, there was an extremely interesting improvement in her general appearance and sense of well-being. There was observed a change from a despondent, apathetic, uncooperative attitude to one of cooperation and a feeling of fitness and eagerness to resume her work.

The case of pernicious anaemia presented in this report has shown a prompt and satisfactory remis-

sion while taking the Extralin. In addition to the improvement in the blood picture, there has been a striking improvement in her general health.

Optic Atrophy Due to Chiasmal Tumor*

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The ophthalmologist is frequently called to consultation by the internist and neurologist on cases of brain tumor in which due to increased intracranial pressure papilledema and headache are prominent signs and symptoms of the disease. He is more apt to be consulted directly by the patient in those cases where brain tumor by its relation to the optic nerves or chiasm has produced by direct pressure a failure of vision which may be the only symptom of intracranial pathology. When, in addition, a pallor of the optic nerves is present with bitemporal field defects or a tendency in that direction, evidence points strongly toward hypophyseal tumor. But if constitutional evidence of disordered pituitary function is lacking and the X-ray films of the skull show no abnormality of the sella turcica, then one must place the lesion in front of the hypophysis cerebri, and in a middle-aged person the diagnosis of suprasellar meningioma may be made with fair assurance of accuracy.

Such a case is illustrated by Mr. S. S. B., age

*Read before Memphis and Shelby County Medical Society, November 20, 1934.

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49, of West Point, Miss., seen June 11, 1934 because of failing vision in the right eye for the past year. Eight years previously vision of the left eye had failed entirely but there was prompt recovery after the removal of two abscessed teeth. With the blurring of vision in the right eye the teeth were again investigated and no pathology found. Apparently nothing else in the way of medical investigation was done although the patient was seen by his home physician and oculist during this time.

Ophthalmological examination disclosed a reduction in vision to 20/100 in the right eye while the left eye was practically normal, 20/20 partly. Near vision was reduced to Jaeger 18 and 2 respectively. The pupils reacted normally. The ocular media were clear. The right optic nerve was very pale; the left was of normal color. Arteriovenous compression was present in the retinal vessels but there was nothing in the fundi to explain the optic atrophy present in the right nerve. The visual fields showed a temporal defect in the right eye; there was an inferior sector notching for form with a hemianopsia for colors. The left eye seemed normal.

A complete physical examination by Dr. L. H. Motley showed no constitutional evidence of any disease and the X-ray films of the sella turcica showed some evidence of erosion of the posterior clinoid process.

A diagnosis of prechiasmal tumor was made and consultation arranged with Dr. R. E. Semmes who advised operation. The patient actually seemed to rejoice in the knowledge that some logical explanation could be offered to explain this gradual visual loss, and wished immediate operation. However, his family and home physician persuaded him to go to Baltimore for examination where this diagnosis was confirmed.

On June 25, 1934, Dr. Walter E. Dandy of Johns Hopkins Hospital operated and removed a suprasellar dural endothelioma weighing 83.4 gms. His operative note which he was so kind as to send me follows:

"The usual hypophyseal reproach with concealed incision was made on the right side. It was easy to reach the region of the optic nerves. Everywhere in this region a reddish brown granular tumor was adherent to both the cells and the base of the brain. They had to be separated and the little bleeding points cauterized. The optic nerve could not be seen until many of these tumor adhesions were severed. It was then found that the right optic nerve was bulging markedly outwards. The left could not be seen because tumor filled the region. It was clearly a dural endothelioma. Every effort was made to get a cleavage line between the dura and tumor, but this could not be done the adhesions were so tight. Efforts were made then to remove the tumor intercapsularly, but the tumor was so hard that no impression could be made upon it with a large scalpel. The whole chiasm bulged upwards.

"It was clear that one could get nowhere with this large mass without dividing the optic nerve. This was done and portions of tumor were curetted away though great strength was needed to get any portion of it with a curet. It was fibrous and stringy. The undersurface of the right optic nerve had grown tightly into the tumor so that it had to be hewn out with knife, scissors, and scalpel. We were fully prepared to sacrifice the right optic nerve in order to save

the left one because both would have been lost by progress of the tumor. It was now possible to get behind the tumor with a curet. An attempt was made to lift it forward, but it had such a broad base of the diaphragm of the cells that it could not be lifted.

We then tried again to shell it away through the dural diaphragm and were making some progress when a large bleeder developed on the right side. This was recognized at once as a tear in the carotid artery. The carotid was compressed at once with the finger and with suction one could see the tear in the artery. With a portion of the suction tube in the tear and with the use of the cautery it was not difficult to thrombose the artery and stop the bleeding. The patient could not tolerate this at his age because motor function of the right hemisphere would certainly be destroyed because of inadequate circulation through the circle of Willis.

The remainder of the tumor was now removed. It was pushing the left optic nerve away and was not adherent to it. This nerve was then freed without apparent injury. The wound was dry and closure was made in the usual manner. The bone flap was replaced and wired. The galea and skin were closed with interrupted sutures of silk."

The patient failed to rally from the operation and died the following day.

I Had the "Flu"

S. T. RUCKER, M.D.
Memphis, Tenn.

Know influenza in all of its forms, and complications, and you will have a good working knowledge of medicine. Influenza is protean in its manifestations and physicians in all departments of medicine have to treat it, or some of its complications. It is pandemic about every 30 years, more frequently epidemic and endemic in all seasons of the year. The epidemics of 1889-1890- and 1918 were the most widespread and devastating that America has experienced. Few

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escaped from its violent sweep over the country. Victims died by the hundreds and thousands were made invalids through complications and sequela. "Flu" is no respecter of person. Both sexes and all ages have it; though it prefers to attack young adults. One attack does not give immunity. In fact, having it once makes one more susceptible to a subsequent attack. The three kinds of "Flu" commonly met with are the respiratory, gastro-intestinal and nervous. Though the nervous factor is prominent in every attack.

The disease is highly infectious and spreads rapidly. It begins, as a rule, abruptly, with fever, headaches, general pains, profound prostration and sometimes a sore throat and irritating cough. I can speak with some feeling on this subject, having had the "Flu" in all its forms and still have some of its sequela to keep me company.

Some of the complications met with in "Flu," are catharrhal conjunctivitis, iritis, rhinitis, laryngitis, permanent impairment of the vocal cords, otitis media, tinnitus, mastoiditis, bronchitis, pneumonia, endocarditis, myocarditis, phlebitis, thrombosis, kidney and bile duct infection, herpes, urticaria and intractable diarrhea. I was confined to my bed for two weeks with the last named complication, during my first attack of "Flu". The "Flu" bacillus seems to have special affinity for the cerebro-spinal system and nervous complications or sequela are frequent. In fact almost every form of disease of the nervous system may follow "Flu." In his text book of clinical

medicine, Thomson reports in one series of cases the sudden development of 10 cases of acute insanity, two chronic cases and two suicides following attacks of "Flu." A large proportion of my nervous patients trace their trouble to an attack of "Flu." A rather common sequela of "Flu" is neurasthenia and the attendant symptoms of headache, insomnia, inertia, introspection and an absolute good-for-nothing feeling that is sometimes almost unbearable and makes every effort painful.

TREATMENT: There is little I can say about the treatment of "Flu" that physicians do not already know. My experience has taught me that the best way to treat "Flu" is before it begins. Give codliver oil and food rich in Vitamin A, preceding and during the season "Flu" is expected. This increases bodily resistance and preserves the physiologic integrity of epithelial membranes. Thus maintaining the first line of defence against bacterial invasion. Be suspicious of every cold until it proves no connection with "Flu".

When an acute attack of the disease begins, the patient should be put to bed, well fed and carefully nursed. Antipyretics should be used with caution, as profound prostration may occur after their employment. It is my plan to give 30 grains of bicarbonate of soda in a glass of water 3 times per day and the bowels opened by a calomel or saline purge. A 3 grain capsule of quinine is directed 3 times per day. Mild hypnotics or Dovers powders at night will promote rest and sleep. Little else need be done and uncomplicated cases will subside in 3 or 4 days. I do not

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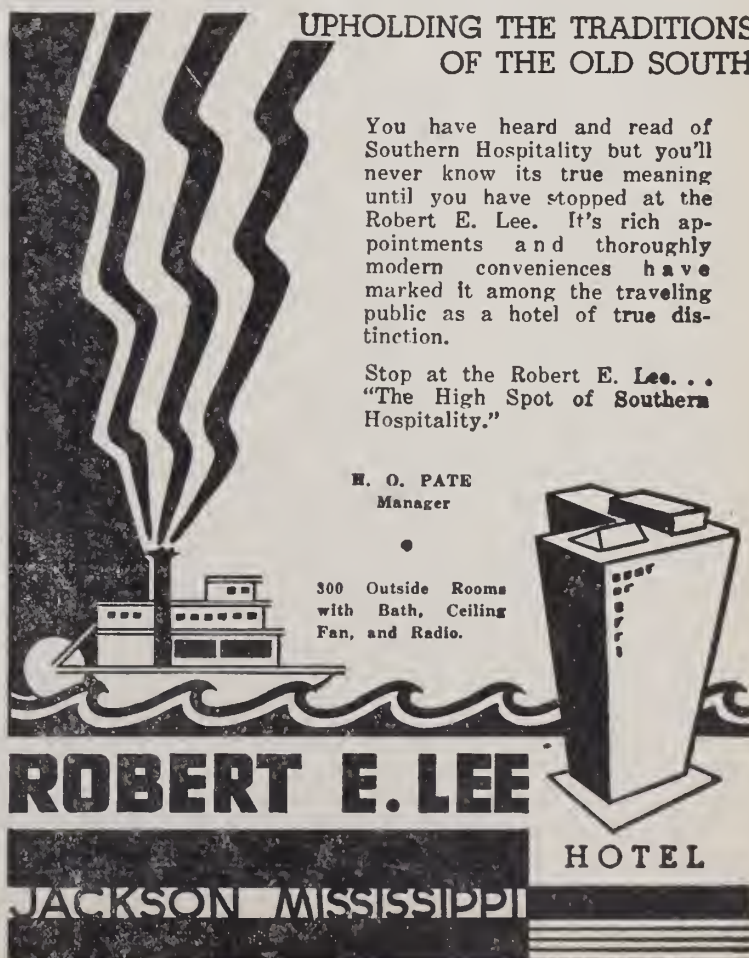
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bother about fever unless the temperature rises to 100 or above (Fahrenheit); then I give 5 grain tablets Acetyl-Salicylic acid or phenacetin every 3 hours until the temperature comes down. Complications and sequelae should be treated promptly as they arise and according to the judgment of the physician, or specialist who has the patient in charge.

Summer Complaints of Children*

E. E. ARNOLD, M.D.
Bellefontaine, Miss.

This subject is not brought to notice at this time that I feel I can instruct, impart any information, or suggest anything new; but because they are ever present diseases at this season of the year and are discussed with the hope, it will provoke discussion, and out of it will come information which will add to the sum total of our knowledge and thus make us more efficient in the prevention and treatment of these cases, and by this means reduce the mortality of a class of diseases which are exacting a tremendous toll each year.

Some authorities tell us that one half of the infants under one year of age that die in the large cities of this country each year are brought to an untimely end of some form of summer diarrheas. Whether it be urban or rural, no place or section in our southern states is exempt from the ravages of this class of hot weather diseases, but its prevalence is much greater in centers of population and especially in tenement districts with poor ventilation, insanitary conditions and inability of the inmates to provide, prepare and keep food in a wholesome state and suitable for the child.

The nomenclature of the diseases of the intestinal tract and the remedies promulgated for their alleviation and cure by some authors are almost as multitudinous as the stars composing the "Milky Way," but our purpose now is to treat the subject in a generic way rather than specifically, for the text books have their classifications, etiological factors morbid processes related in detail, and symptoms, with which we are all quite familiar.

We are cognizant of the fact that the heat of summer, which is both depressing and enervating, is a predisposing factor in the diseases under consideration; that a sudden drop of temperature—chilling the body and extremities, eating raw or over-ripe fruits, over-feeding—especially with sweets and fats, a previous diarrhea in winter or spring, mechanical irritations from scyballous stools, sometimes intestinal parasites, ingestion of dirt or even sand, toxins elaborated in connection with colds, malaria, otitis media, mastoid disease, pyelitis, pneumonia, exanthema, and many other and sundry causes are productive of these conditions.

Not only do dirty foods play a major roll, but improperly selected and prepared foods, those unsuited to the age and physical condition of the child—given at irregular intervals and in amounts too great for the proper digestion and assimilation. So we are to view age, environmental conditions, improper foods and

summer heat as strong predisposing factors.

Some of these cases are mild and require but little supervision, and regulation of the diet; while others are severe and toxic, and call for all the patience, ingenuity and skill of the attendant.

In the last few years we are seeing fewer of the severe type of chronic cases, especially Ilio-Colitis, due to cleaner food, better sanitation, purer water, screening, better co-operation of patients, more comprehension among the laity of the danger signal—the loose green stools—therefore seeking medical advice earlier, and more intelligent nursing.

While patients developing chronic symptoms are fewer, cases of acute colitis are more frequent and more fatal. These cases of acute colitis are one of the most rapidly fatal diseases with which we are called on to cope because of its abrupt and violent onset, colic, tenderness, vomiting, constant evacuations of mucus often tinged with blood, great thirst, rapid loss of weight, dehydration, acidosis and collapse.

In my section this disease greatly frightens the masses, and well it may, for in very toxic cases it is rapidly and frightfully fatal, and easily takes the lead in causing fatalities in children during the hot months.

Many varieties of bacteria are found in the diarrheas of children, but no one, according to Butler and Koplik, has been held responsible for the toxic products which develop in the intestines as a result of bacterial growth, but it is known, that certain bacteria, under favorable conditions greatly increase in numbers become exceedingly virulent, and produce the acute toxic diarrheas with which we are so familiar.

Authors of Pediatrics have classified the diarrheas of childhood into two general classes:

1. Those whose source of infection lies outside the body, id est, from food passing through many channels and becoming infected.
2. Those in which the elements of infection pre-exist in the body, which would include toxic diarrheas and Cholera Infantum.

Much can be accomplished in the prevention of this class of diseases, if we can secure the active and intelligent cooperation of mothers.

There are, however, three difficulties in putting over this program:

1. Lack of information.
 2. Lack of interest.
 3. Carelessness, indifference, and even indolence.
- Mothers must be taught that winter and spring

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diarrheas are potential factors in producing serious and often fatal acute diarrheas during the hot months, since there is left in the intestinal mucosa a sub-acute pathological condition which needs only an error in diet or infection with malaria or any other exciting factor to fan it into action.

The physical well-being of the child must be zealously guarded; must be kept free from malaria and other infections; screened, of course, from flies, mosquitoes and other insects; bowel and kidney functions regulated; mouth, teeth, and throat kept clean; clean water to drink; tempting food to eat; regular bathing and a balanced diet suitable for the age of the child, and to meet the needs of a growing body.

The child must have its hours of relaxation and play in the open to work off redundant energy, and periods of rest for recuperation and tranquillity of the nervous system, and this schedule needs to be strictly adhered to.

If we relax our efforts in the intelligent supervision of exercise, food, drink, bathing, environmental conditions, and neglect the minor disturbances of the gastro-intestinal tract, we are possibly headed for stormy weather in the physical organism of these little patients.

Prevention is a great word, and when applied to the diseases under consideration, it rises like some majestic mountain peak in importance and beckons us to do all in our power, use all scientific means at our command to prevent the morbidity of the well and to swing back to vigorous health those who are ill.

The medical profession is ever ready, willing and eager to advise and instruct in the prevention of disease, and conservation of human life; has done so

in the past, will do so in the future despite the fact that it reduces their income, but it is a call of humanity which they hear and gladly heed.

In the treatment of these conditions I follow the dictum laid down by Kerley and others that no food is to be given the first twenty-four hours.

It would be the gravest possible error to permit food during this period and our clientele are to be instructed definitely, positively and specifically on this point—for to err here will often do irreparable damage and possibly cause a fatality; this is, therefore, an essential and vital point in the management and treatment.

The most effective remedial agents we have to-day are the Bismuth preparations, the subcarbonate where there is vomiting and tenesmus, the subnitrate where the stomach is quiet and pain not marked, the salicylate or subglobose when acute conditions have passed. If Bismuth does not produce black stools, that is, is not changed to the sulphid in the intestines, it is not effective, but this may be brought about by the addition of one grain of sulphur to each dose.

Theoretically, salol should be a remedy of therapeutic efficiency, also an intestinal antiseptic, and in combination with Bismuth and sulphocarbonate of zinc it does help prevent gaseous distention and exerts curative powers by its effects upon the intestinal contents.

When the acute stages have passed, Tannigen, either alone or with Bismuth, often renders good service even when the other drugs have apparently failed. Dr. La Fetra of New York has highly recommended thirty grain doses of sulphate of soda at one half hour intervals for four doses and claims it does not

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disturb the stomach, causes no tenesmus, but does produce water evacuations. Perhaps most of us would begin the treatment of these cases with small doses of the mild chloride of mercury, especially if the stomach is very irritable and vomiting marked, and in small doses frequently repeated it is one of our most effective remedies.

Other drugs highly commended are castor oil, milk of magnesia, strychnine, atropine, etc.

The use of narcotics is condemned by most authorities, and they are to be used, of course, with caution, but in selected cases there is a place for their use as needed, and the safest and most effective are choranodyne, Dovers Powders and Tr. opii Camphorated.

It is occasionally necessary to resort to small doses of morphine to relieve pain, induce rest and stop so much drain from the tissues.

In the main, irrigations have been disappointing to me, but in some cases they serve a good purpose, as in Ilio-Colitis, where they do not provoke tenesmus, where the tissues need fluid, for a normal saline is not only cleaning, but relieves to some extent the toxic condition and is sedative to inflamed tissues.

Experience has demonstrated where there is constant vomiting and a severe toxic condition with very large watery stools, irrigations do no good, but perhaps most of these cases at some stage should be irrigated once, and then this treatment used according to indications and the amount of tenesmus it causes.

There is nothing that will take the place of the warm bath, the temperature and frequency to be regulated according to the condition and needs of each case, for it is one of the most effective means for the comfort of the ill.

The diet is perhaps one of the most difficult problems in the management of these cases. All food is forbidden the first twenty-four hours. The nurse may give castor oil or milk of magnesia and boiled water, then the practitioner must work out his dietary with fear and trembling.

Individually, I use weak tea, rice water, albumen water, and then cautiously and carefully return for a few days to pasteurized or boiled milk, and then add other articles as judgment and experience dictate.

I have found but few patients that loaf bread with hot milk poured over it disagreed or produced any untoward symptoms. It usually agrees and is taken with a relish by most little patients.

Keeley has said, "The food suitable for the second year of life, and the method of preparation and administration are subjects upon which the masses are profoundly ignorant; a few children are underfed, but a great majority are overfed, the food being wholly unsuitable, wretchedly cooked, and carelessly given at improper intervals."

"Summer diarrhea finds its greatest number of victims among such children."

At times children with summer diarrhea and fever will take more food than when in usual health, not from a desire for food, but because of great thirst, and in this condition foods can be greatly diluted, and thus furnish both food and sufficient water.

The essential facts to be kept in mind are, milk is contra-indicated in acute conditions of the gastro-

intestinal tract and the stools are to be carefully watched and prescribe the food best fitted for this particular case.

In other words, we must individualize these cases, keeping clearly before us the patient, their peculiarities, even their whims, and in this way we are often able to work out a dietary which will meet most every requirement.

Some of these patients take insufficient food and water, and as a temporary measure we can use forced feeding, nutrient enema and even oil inunctions.

Some of our cases of languor, fever of one or two degrees, poor appetite, lack of interest and vitality which often suggest worms or at times due to faulty feeding and intestinal toxemia which authors of Pediatrics suggest are due to "changes taking place in the proteid content of the intestines."

In some of these cases crackers, junket, orange juice, whey, gelatin, and ice cream weak in fats will clear up an ugly situation, and help us over what appears to be an impassable barrier. Feeding must be intelligently done. We must know the amount of foods, whether be proteid, carbohydrate or fat, what foods are best suited to certain conditions, which ones are contra-indicated, how the system may be sustained at times on small quantities which are higher morning and eve.

When home comes back to us with some meaning and charity, and not a place to hang the hat, eat food indifferently prepared, and hit the road again perhaps we may have time to abide for a season, study foods, their preparation, and look to the building of a strong physical organism with the growing child, and not delegate this task into hands often ignorant, unsympathetic and unkind and who feel no personal interest or concern in the delicate growing organism entrusted to them.

In this imperfect way I submit these deductions for your consideration, with the hope that the day is not far distant when these diseases will all be preventable—be only a memory—and the bloom of health and buoyancy of spirit will ever characterize the child of the near future.

If the physicians possessed the wand of some enchanting magician, they would wave it, freely and willingly, over the childhood of the world and give to them the blow of vigorous health, the elasticity of redundant power, the laughter of radiant, exuberant, buoyant youth, the sparkle of unused and inexhaustible vitality, and the gradual unfolding and emerging into a life of fullness, usefulness, joy and a bene-

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Jackson, Miss.

Specialty: Dermatology, X-Ray and Radium Laboratory

R. L. SANDERS, M.D.
General Surgery

L. C. SANDERS, M.D.
Internal Medicine

M. P. KENDRICK, D.D.S.
Oral Surgery

J. CASH KING, M.D.
Consulting
Roentgenologist

Suite 324—Physicians and Surgeons Building
Memphis, Tennessee

diction to the world.

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Alopecia—Traumatica

B. L. DORSEY, M.D.
Los Angeles, Calif.

In America the bald head is in greater evidence than ever, notwithstanding the fact that the scalp is receiving more attention than any other part of the body.

Thousands of so-called scalp specialists are fleecing the guillibles of millions annually for treatments of various sorts; none of which seem to be of the slightest avail in stopping the process of falling hair.

Baldness may be considered a scourge of civilization, as it is practically unknown among savages.

Why should it be so exclusively confined to men?

Lack of space forbids enumerating the various supposed causes, likewise the multitude of remedies, or even those with a money back guarantee. However, 'tis well to consider the following:

1. Male and female scalps are identical, differing in size only.
2. Every germ found in a male scalp may also be found in a female scalp. The hair follicles, tissue and blood supply are identical in both sexes.
3. I know of no disease that is a common cause of permanent baldness.
4. A shiny female scalp is rare; but there are millions of shiny male domes.
5. Symptoms and sequels of disease (omitting

organs of generation) manifest no variation, regardless of gender.

6. Could any disease have special predilection for the upper anterior portion of the scalp?

Pathological ductless glands have been recently exploited as a prominent cause of Cranial Alopecia. Again women are rarely affected, yet the glands are identical.

If Alopecia (Cranial) is caused by disease, I am at a loss to know why baldness rarely occurs behind the ears (only). The anterior part of the scalp is affected and the hair on other parts of the body is unmolested.

Unable to substantiate the version of our eminent authors regarding etiology, prognosis and treatment, I cite no reference and quote no authors; but present a new departure in considering **Alopecia Traumatica**, which I will definitely show is due to an **unsuspected hat**.

My findings are the results of dissection, craniometry and clinical investigation. Heretofore, research has been chiefly confined to the scalp and constitutional diseases.

Craniometry has not been considered. It seems rather unjust to judge a young man apparently in the best of health, who is losing his hair on the upper front part of his scalp, as having a dreadful glandular disease.

The hair is lost only on that part of the scalp with blood from the **Temporal Arteries**, and no other part of the body. Why the partiality?

On the section of the scalp supplied by the Occipital and Posterior Auricular Arteries, the hair remains normal.

Alopecia Traumatica is found in men whose skull is broadest over the temporal bones. Here the temporal arteries pass over the bulging bones in such a course that a hat cannot help compressing them to

DON'T PUT IT OFF

Do you wish to nobly live?

Don't put it off.

Plan sometime to freely give,

Don't put it off.

Useless to regret and sigh,

Time and chance go fleetly by,

This is the time to really try—

Don't put it off.

Long to free yourself from debt?

Don't put it off.

Want some way relief to get?

Don't put it off.

Foolish to procrastinate,

Sit inert, bemoan your fate,

Do it now before too late—

Don't put it off.

Like to start the new day right?

Don't put it off.

Make a saddened life more bright?

Don't put it off.

Prove that you can meet the test,

Serve a cause, work with a zest.

Aim today to do your best—

Don't put it off.

—Grenville Kleiser



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MEMPHIS CLARIDGE UNDER SAME MANAGEMENT

a dangerous degree. On the other hand, the long skull on the sides of which the hat does not fit so closely offers more protection to the blood supply of the scalp.

Dissection of the temporal veins and arteries in a bald head will reveal that the veins and arteries have been injured by the hat band pressure and the lumen diminished, distorted, and the walls contracted. Veins above this point enlarged and arteries diminished in size.

Treatment (Prophylactic): It is not possible to restore the hair of which the roots are already destroyed. The only treatment that is of any avail is to protect the hair still remaining. Remove the cause of baldness by preventing the slightest pressure over the temporal region. Merely stretching the hat is not sufficient as the point of contact over the temples remains the same, as the hat will resume its former shape when placed on the head.

Medicine taken internally or applied externally is absolutely useless.

The man with a long skull flattened on the sides is rarely bald. The oval skull that bulges at the temporal region is usually bald.

There is a fortune awaiting the hat manufacturer who may devise a type of hat slightly more convex at this point bridging over the temporal arteries and veins to permit normal circulation without perceptibly distorting the hat. Such a hat will be welcomed with avidity by the man with an oval or broad skull; who certainly can anticipate baldness if he persists in wearing the present type of hat.

Should the gentler sex cut their hair short and wear a tight fitting hat, they will soon show symptoms of Alopecia Traumatica.

However, in the future when proper protection is given the blood supply of the scalp, we can be confident of seeing no more bald headed men than women.

THE UNIVERSITY OF TENNESSEE

The University of Tennessee has established in Memphis one of its major divisions consisting of the Colleges of Medicine and Dentistry and the Schools of Pharmacy and Nursing. The Memphis Division is dedicated essentially to the service of the entire mid-south region.

COLLEGE OF MEDICINE

The growth and development of the College of Medicine during the past ten years have been phenomenal. For many years the number of qualified applicants for admission has been far beyond the number that could be admitted. Those from the mid-south only are given consideration. Of these the faculty requires a record of high scholastic attainment on the standard pre-medical course. Experience has demonstrated that the success of a medical student can be predicted much more accurately from the quality of his pre-medical record rather than the number of years he has been engaged in study. The annual enrollment is limited to about four hundred and twenty students.

Through the generous support granted by the State of Tennessee and the cordial cooperation for the City of Memphis, the College of Medicine has been enabled to adopt the four-quarter plan of instruction such as is in use at Leland Stanford, Rush, Duke, and a few other medical colleges. The plan offers substantial advantages to the students and enables the faculty to organize the courses much more effectively during the clinical period of instruction. Students may be admitted at the beginning of any quarter and may withdraw at the end of any quarter without loss of credit.

PRE-CLINICAL DEPARTMENTS

Proceeding rationally, the trustees of the University first placed the preclinical departments on a basis commensurate with the needs of the college. The divisions of Anatomy, Physiology and Chemistry, and Pathology and Bacteriology have been given excellent modern laboratories with the necessary equipment both for instruction and research. Over a period of years, it has been possible to assemble a corps of instructors distinguished as teachers and as scholars. The full-time staff in Anatomy numbers seven; in Physiology and Chemistry, nine; and in Pathology and

Bacteriology, eight.

Members of the pre-clinical faculty are engaged actively in researches which promise important results for the medical profession. During the past year the causative agent of a virulent and fatal type of infant diarrhea has been isolated, information developed in connection with the treatment of cases of cyanide poisoning which will correct and improve present methods, and encouraging progress made toward the development of an artificial medium for blood transfusions. If the medium can be perfected, this important therapeutic procedure can be greatly simplified and made far more widely available than is now the case.

LIBRARY

To facilitate the extensive research program of the faculty and to broaden the opportunities of the students, the University has developed an excellent medical library. The library now contains over 16,000 volumes. It subscribes to 300 medical and scientific periodicals. About 1500 volumes are added to the library annually. The facilities of the library are available to physicians of the mid-south. Obviously, books and periodicals can not be sent out of the library, but any physician will be given the use of a private cubicle in the library and a member of the library staff will assemble his material for him.

CLINICAL DEPARTMENTS

For a hundred years Memphis has been recognizing

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ed widely as a center for medical services and hospitalization—it has forty per cent more hospital beds than is usual for cities of the same size. Naturally it has developed or attracted to itself numbers of physicians of superior ability in all lines of medical service. Many of the most distinguished of these con-

ing of medical students, since the University has a 50-year contract with the city granting the University control of the hospital for teaching purposes.

The Out-Patient Department of the hospital is housed in two of the University's buildings adjacent to the remainder of the hospital. Visits to the O. P.



NEW BUILDINGS—ANATOMY, ADMINISTRATION, PHARMACY

stitute the clinical faculty.

The City of Memphis maintains the Memphis General Hospital for the benefit of the sick who are too poor to pay the cost of their care. The hospital provides 452 beds at the present time. The Maternity Pavilion, 72 beds; the Children's Pavilion, 64 beds;

D. reach a total of 160,000 annually. This is far more material than is needed for the purpose of instruction, but the presence of so many patients enables the staff to select an appropriate number of the most interesting cases for the students.

The method of instruction both in the hospital



ANATOMY BUILDING

and the Isolation Hospital, 60 beds, are modern and well equipped. The construction of a new building for general medical and surgical cases is now in progress. The new building with its equipment will cost \$850,000. It will provide 300 beds. The facilities of the new building will be especially adapted to the teach-

and in the out-patient department is to assign a small number of patients to each student. The student is required to get the history, to make the record a thorough physical examination, and to make the usual laboratory examinations. The student reaches a tentative diagnosis and tentatively determines the course

of treatment. The instructor then reviews the student's findings and confirms or corrects the diagnosis and treatment.

UNIVERSITY CENTER

Recently the University has secured possession of the large four-story brick building on the corner of Madison and Dunlap Streets (one-half block of other buildings). Contracts have just been let for the remodeling of the interior of the building. It is to be developed as a social center for the students and alumni and visiting physicians. There will be large lounging and reading rooms, rooms for chess and checkers, billiards, and cards, handball courts, bowling alleys, and a swimming pool.

COLLEGE OF DENTISTRY

The College of Dentistry offers the standard four-

year course of training and enjoys the highest rating of standardizing agencies. A thorough grounding in the pre-clinical sciences is required. The facilities in Anatomy, Physiology, and Pathology are the same as those of the College of Medicine. The teeth and their surrounding parts are living structures and subject to the same fundamental processes of disease as other organs. A sound understanding of anatomy, physiology, and pathology is the essential basis of successful practice.

The procedures of Dentistry require the mastery of a delicate and intricate technique. Students begin their training in this during the first year and perfect their skill in the dental infirmary during the last two years of the course. Some of the most eminent dentists of the country instruct the students in the ap-



BACTERIOLOGY LABORATORY



NEW MEMPHIS GENERAL HOSPITAL NOW UNDER CONSTRUCTION

plied aspects of the course and immediately supervise their mastery of the technique.

SCHOOL OF PHARMACY

The School of Pharmacy offers the standard four-year course leading to the bachelor's degree. Arrangements have been made with the West Tennessee State Teachers College by which students who wish to do so may continue their studies during the summer quarter and so complete the course in three calendar years.

The location of the school in a city with a large number of drug stores enables advanced students to secure places as relief clerks. Such appointments give the students opportunities to learn the practical requirements for operating a drug store successfully. Incidentally, of course, the student is able to earn a substantial part of the cost of his education.

SCHOOL OF NURSING

The School of Nursing is operated in conjunction with the Memphis General Hospital. The course extends through three calendar years. The entrance requirements are the same as those of standard colleges of liberal arts. There are many more applicants for admission than can be accepted, so that it is necessary to present a superior record to be assured of acceptance.

Student nurses are given training in the medical sciences in the University's laboratories. Most of the work is on the hospital wards under the supervision of the staff of the hospital. Especially good opportunities are given for those interested in the care of children, of maternity cases, of infectious diseases, and in public health nursing.



READING ROOM OF C. P. J. MOONEY MEMORIAL LIBRARY

Memphis Society of Ophthalmology and Otolaryngology

NOVEMBER 13, 1934

NERVE BLOCKING IN THE REMOVAL OF ORAL MUCOUS MEMBRANE GRAFTS

Dr. Marshall Stewart (by invitation) presented the technique of nerve blocking in obtaining mucous membrane grafts for use in the Webster operation for relief of entropion.

In a great many localities, a topical application of a 10 per cent solution of cocaine is used to remove the mucous membrane graft from the lower lip, which procedure is painful to the patient and often semi-

barbarous. A better method is offered by blocking the mental nerves after their exit from the mental foramina.

The lower lip is supplied by branches of the mental nerve, its fellow on the opposite side and occasionally branches from the cervicals which pass up over the chin. The mental foramen is located about $2\frac{1}{2}$ cm lateral to the symphysis mandibulae and 2 cm below the gingival or gum margin of the bicuspid teeth. This distance may be shorter in older people depending on the amount of absorption of the alveolar process. The foramen lies between the apices of the roots of the lower bicuspid teeth.

It has been found best to first inject the lower lip, then proceed to prepare the operative eyelid in the usual manner for the reception of the graft. This

step will shorten the time of operation and prevent undue exposure of the delicate mucous membrane graft.

The lower lip is grasped gently between the thumb and index finger and pulled outward, the septum like frenulum now being prominently apparent in the midline at the symphysis mandibulae. With an applicator in the other hand, mercurochrome solution is topically applied at the site of the injection, on either side of the frenulum, the lip still being extended with the fingers. The needle should be at least 2 cms in length. About 1 cc. of 1 per cent procaine solution is injected one cm lateral to the frenulum, care being exercised not to slide the needle on the periosteum which is sometimes painful.

The needle is then inserted downward about 1 cm in a vertical manner. This distance, as explained before, is shorter in older people. In order to prevent a double needle puncture, a needle is pulled partly out and is now directed laterally, backward and slightly downward, 1½ or 2 cm in the proximity of the mental foramen, where 1 cc of 1 per cent procaine is deposited. It is unnecessary and painful to enter the mental foramen.

The injection is repeated on the opposite side in a similar manner because of an overlapping of nerve filaments from the opposite mental nerve. The actual injection on both sides can be accomplished in less than one minute. The patient will experience a sensation of numbness and thickness of the lower lip within a few minutes after which the mucous membrane transplant is removed in the usual manner.

This painless modification of the entropion transplant operation has been used at the Memphis Eye, Ear, Nose and Throat Hospital by the Staff and Resident Surgeons in five cases. The entire procedure in all cases has been devoid of pain. There has been no sloughing of the transplant because the nerve filaments are blocked distant to the site of graft removal. The protoplasmic poison cocaine is eliminated as a topical anesthetic thereby preventing interference with normal cell metabolism, the prime requisite of plastic surgery.

DR. R. O. RYCHENER, Secretary.

GLIOMA OF THE RETINA

Dr. R. O. Rychener presented the pathological specimens of both eyes of V. S., female, aged eighteen months, seen first on November 29, 1933, whose left eye had been removed four days previously because the eye had been painful. The parents had noticed for two months that there was a white reflex from the pupil, and then the child gradually became fretful, lost appetite, rubbed the eye and head, and became stuporous. The globe was enucleated in Little Rock after a diagnosis of glioma of the retina had been made and the pathological report of this eye follows:

LEFT EYE—GROSS DESCRIPTION: The eye is filled with a friable and apparently necrotic tumor mass.

MICROSCOPICAL DESCRIPTION: The vitreous is nearly filled with a partially necrotic hemorrhagic humor mass composed of small undifferentiated round cells with dense nuclei and scanty cytoplasm. There are numerous areas of calcification and only occasionally are found areas in which the tumor cells attempt to form rosettes. The retina is almost com-

pletely destroyed and the tumor extends into the optic disc as far as the lamina cribrosa. There is a mild lymphocytic and polymorphonuclear infiltration in the choroid. The iris is necrotic. There is a small group of tumor cells in the retinal vein behind the lamina cribrosa.

DIAGNOSIS: Retinoblastoma (glioma of the retina) with extension into the retinal vein. Secondary glaucoma and recent acute inflammatory reaction. Cataract of the lens."

At the time of this operation while the child was under anesthetic the examination of the right eye disclosed a similar process beginning in this globe and enucleation was advised. This the parents did not consent to have done immediately, but came to Memphis in the hope that some other procedure might be of avail.

Upon examination a vascular white mass was seen in two main lobes in the vitreous although there was a good reflex from the macula and the child apparently saw well enough to get about by herself.

It was decided to give the child an opportunity, and 6 mgs. of radium were implanted about the globe for a total of 240 mg. hours. There was no apparent effect from the treatment and X-ray therapy was then resorted to. In spite of repeated exposures to the intraocular growth. Enucleation was repeatedly advised but deferred until August 13 at which time the same general symptoms of fretfulness, pain and stupor were present. The globe was then removed and the pathological description follows:

RIGHT EYE—"GROSS DESCRIPTION: The eye is filled with a friable and apparently necrotic tumor mass.

MICROSCOPIC DESCRIPTION: The detached retina is almost completely destroyed by an infiltrating growth of undifferentiated cells showing areas of necrosis, areas of calcification and hemorrhage. The tumor extends into the lamina cribrosa but no tumor cells can be found in the nerve beyond the limits of the lamina cribrosa. Masses of cells are adherent to the choroid but apparently do not penetrate this layer.

"DIAGNOSIS: Retinoblastoma (glioma) of the retina."

To date there has been no evidence of metastasis and the child is healthy and in good spirits.

PSEUDOGLIOMA

Dr. R. O. Rychener also presented the pathological specimen of the left eye of A. G., male, aged twenty-three months, who was seen on January 25, 1934 with exactly the same symptoms as described in the

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case above and with much the same clinical appearance of the eye except that there was marked ciliary injection with engorgement of the iris vessels. There was a gray reflex from the pupil which seemed to be due to a vascular growth which apparently replaced the entire retina. Tension under anesthetic was 40. Enucleation was advised and performed, and it was surprising to find that all of these symptoms which had clinically simulated glioma of the retina were due to pseudoglioma.

DISCUSSION

Dr. J. B. Stanford thought that some operators were at times embarrassed to discover that an eye removed apparently for glioma of the retina proved to be pseudoglioma instead. He had never felt that this was a cause for embarrassment inasmuch as all these eyes should be enucleated because of the impossibility to differentiate between a growth which endangers life and one which gives rise to local symptoms only. He had had occasion to remove several similar eyes and felt that it was the only safe advice to give.

The Mississippi State Hospital Association

LEON S. LIPPINCOTT, M.D., Editor—Vicksburg

KATE LOU LORD, R.N., Associate Editor—Hattiesburg

In this number appears the report of the Committee on Minimum Standards, adopted at the last meeting of the Mississippi State Hospital Association. Throughout the five years of the existence of our Association, minimum standards for our members have been discussed, it being recognized that if the Association was to live up to its objects in fact, membership must be a badge of known efficiency. But it was not until 1934 that standards acceptable to all member hospitals were presented in concrete form by a committee composed of Dr. W. Jeff Anderson, Meridian, Chairman; Dr. John B. Howell, Canton; Dr. Charles E. Catchings, Woodville; and Dr. George E. Brown, Water Valley. The standards as adopted, if lived up to, will guarantee to the people of Mississippi, at least in those hospitals that are members of the Association, dependable and safe service. By consulting a membership list of our Association, a stranger should be assured of making no mistake. It is because of the responsibility accepted in guaranteeing member hospitals that the Association must see to it that its standards are not paper standards only. The standards adopted are simple and entirely possible for an institution worthy of the name of hospital. It is to be hoped that they may be raised from year to year in the interests of the people they serve.

THE JOINT COMMITTEE QUESTIONNAIRE

While a number of our member hospitals have not even now furnished information to be used for the betterment of themselves as well as for the hospitals of the entire country, some interesting figures are apparent in the replies received. For the year of 1933, 26 member hospitals had a total of 100,782 hospital days. Of these 76,771 days were devoted to the care of full pay patients (76.18%), although all of the

patients may not have paid in full; 8,466 days were given to part pay patients (8.40%); and 15,545 days were given to free patients (15.42%). In other words, more than fifteen per cent of all hospital days in the 26 hospitals were given to patients with knowledge that nothing would be received for the services rendered.

The per capita per diem cost apparently varies much more than is to be expected in our state. The highest cost of hospital service was \$9.95 per day, the lowest \$2.00 per day. Following is the summary of the reports for 34 hospitals:

Per Diem Cost	Number of Hospitals
\$2.00 to \$3.00	7
\$3.00 to \$4.00	5
\$4.00 to \$5.00	11
\$7.00	1
\$9.95	1

Average for 34 hospitals \$4.21.

STAFF MEETINGS

In the November number of the Journal of Laboratory and Clinical Medicine there is an excellent editorial on "Staff Meetings and Statistics." In it is much food for thought for those interested in our Mississippi hospitals. It calls attention to the fact that one of the requirements for an "approved hospital" is that there shall be a monthly staff meeting at which the work done and results secured by various departments shall be discussed and evaluated; that the principle underlying this provision is, without doubt, wise and well founded but if the reports thus made obligatory are to be productive of the results desired they must be something more than mere statistical recitals, and the discussion which they are intended to provoke must comprise something more than an exchange of compliments.

The editor calls attention to the not uncommon practice of briefly and sometimes even cursorily reciting a number of cases of this, that, and the other thing together with a bald statement that so many were discharged "cured" or "improved," while it may conform to the letter of the law, falls far short of real compliance with the end in view. The real purpose, it is suggested, is to determine, not merely what happened, but why did it happen and, what is still more important, could it have been avoided? The editorial quotes from Lahey* certain principles which are equally applicable to medical as well as surgical services, as follows:

"Mortalities are in some measure related to the surgeon's state of mind. If a surgeon assumes the position that a certain number of patients must die anyway following surgical procedures since, to be given a real change of cure, particularly in carcinoma, radical procedures must be done, then it naturally follows that a certain number of mortalities will occur. . . . If one is prepared to expect mortalities, he has in some measure compromised his conscience to their occurrence. In my own opinion, the attitude should be that patients should not die following surgical procedures, that when they do die following surgical procedures, one's attitude, with reasonable

(*Lahey, F. H.: Operative Mortality Statistics of The Lahey Clinic for 1932, Bull. Lahey Clinic, 1932.)

exception, should be that an error in judgment has been made, either in advising operation at all, in the extent of the operation, in some of the technical procedures, or in the way of pre- or post-operative management. . . .

"It is extremely easy in surgery, particularly when dealing with patients who are in a desperate condition, to justify in one's mind desperate risks, but very rarely, in my experience, do desperate risks accomplish very much which is worth while. . . . When one knows and frankly faces the mortality rate this has the advantage of making one acutely aware of his errors in judgment and stimulating every one who is connected with operative procedure to his utmost efforts, pre- and post-operatively, to prevent the occurrence of a mortality."

NURSES' EXAMINATIONS

The Mississippi State Board of Examiners of Nurses held its regular examination at the Robert E. Lee Hotel, Jackson, Oct. 1 and 2. There were 85 applicants for registration by examination, 17 for registration by reciprocity. All applicants for examination made passing grades.

The Balfour Plaque for highest grades during the year was presented to Miss Merle Gorden from the Charity Hospital, Jackson. Miss Gorden's general average was 96 $\frac{3}{4}$ per cent.

Mrs. Alice W. Finley, R.N., Tupelo, was appointed to the board to succeed Miss Rose Keating, R.N., Jackson.

Officers for 1935 are Dr. Felix J. Underwood, president, and Kate Lou Lord, R.N., secretary-treasurer.

REPORT OF COMMITTEE ON MINIMUM STANDARDS*

Presented by Dr. W. Jeff Anderson, Meridian, Chairman

When we express in minimum standards of our member hospitals, it is assumed one of a reasonable efficiency for rendering a scientific service and administering to our hospital clientele the most up-to-date and modernized treatment. To accomplish this, the hospital equipment must of a necessity be in keeping with the demands of the progress made in the various branches of medicine and surgery.

There should be a laboratory with adequate equipment for carrying on the daily routine work of any hospital as an aid in the diagnosis and proper treatment of patients admitted to the hospital. This is a service that we can not overlook. The masses are being more and more educated as to the importance of the laboratory findings. They realize that on this depends the proper procedure in administering the treatment that will facilitate a speedy recovery in the diseased conditions that effect the health of the individual.

The hospital must have a modern and well equipped operating room, properly lighted, with the necessary and carefully selected instruments for performing modernized surgery. A well trained conscientious operating room technician is of paramount importance.

The importance of maintaining a modernized x-ray laboratory can not be overlooked for it is one

of the essential equipments in the hospital for aiding in making a proper diagnosis of many conditions.

The hospital supervision should be under the guidance of an efficient and well trained registered nurse, skilled in technicalities in every department if possible.

Our member hospitals should be maintained and operated under a high moral standard and free from any undue criticism. The public is entitled to be educated as to the importance of hospital care and treatment but unscrupulous advertising and bartering for hospital business should be unhesitatingly condemned.

Division of a small fee to a fellow practitioner through the medium of the hospital may not be regarded in exact terms as fee splitting but it places the recipient of such a fee under obligations to the hospital.

Hospitals maintaining free hospitalization for ministers' and physicians' families in the surrounding trade territory for the purpose of their influence for business, in my opinion, is unfair competition.

If we consider the progress made in hospital development within the past quarter of a century, we have cause to feel proud of the scientific improvement in every department. Our hospitals have grown from small units in antebellum homes or a few rooms over a drug store to large and handsome hospital buildings with every equipment for diagnosis and treatment in the most up-to-date, modernized method. With this improvement the standards of the hospitals have grown and developed in equal proportion.

It is not my purpose to consume any more of your valued time in making my report to this association on Minimum Standards for the Mississippi hospitals but I want to express my appreciation for the untiring and unselfish work of our capable and efficient secretary, Dr. Leon S. Lippincott, and his co-workers. From Dr. Lippincott's office was sent a questionnaire in an effort to secure information directly from the hospital members for an expression as to the requirements of the minimum standards of the membership of this association. From this questionnaire answered by 44 hospital members evolved the following minimum standards that we wish to offer for your consideration:

1. That all hospitals shall have modern and efficient buildings which are separate and apart from other building and operated solely for hospital purposes. Physician and surgeons privileged to practice in the member hospital shall be organized as a definite group or staff; the word 'staff' to include all doc-

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Offices of

WILLIAM CALVERT CHANEY, M.D.

20 S. Dunlap Street

Memphis, Tennessee

Internal Medicine and Allergic Diseases

*Presented at the Fifth Annual Session of the Mississippi State Hospital Association, Natchez, May 7, 1934.

tors who practice in the hospital.

2. That membership upon the staff be restricted to physicians and surgeons who are (a) full graduates of medicine in this state, and members of their respective county medical societies and of the Mississippi State Medical Association; (b) competent in their respective fields, and, (c) worthy in character and in matters of professional ethics; that in this latter connection the practice of the division of fees, under any guise whatever, be prohibited.

3. That the staff initiate and, with the approval of the governing board of the hospital, adopt rules, regulations, and policies governing the professional work of the hospital; that all doctors read and sign the rules and regulations upon election to the staff; that these rules, regulations, and policies specifically provide:

(a) That staff meetings be held at least once each month.

(b) That the staff review and analyze at the monthly staff meetings their clinical experiences in the various departments of the hospital, such as medicine, surgery, obstetrics, and the other specialties; the clinical records of patients, free and pay to be the basis for such review and analysis.

4. That accurate and complete records be written for all patients and filled in an accessible manner in the hospital—a case record to include at least identification data; complaint; personal and family history; history of present illness; physical examination; special examinations, such as consultations, clinical laboratory, x-ray and other examinations; provisional or working diagnosis; medical and surgical treatment; gross pathological findings; microscopic pathological findings when indicated and possible; progress notes; final diagnosis; condition on discharge; follow-up; and, in case of death, autopsy findings when possible to obtain.

5. That diagnostic and therapeutic facilities under competent supervision be available for the study, diagnosis and treatment of patients, these to include at least (a) a clinical laboratory and (b) an x-ray department.

DISCUSSION

DR. LEON S. LIPPINCOTT (Vicksburg): Dr. Anderson has done a lot of work on this report. You will notice that those minimum standards follow in a general way the minimum standards set by the American College of Surgeons, with the exception that they have been changed to make it possible for our hospital members to live up to these proposed standards. I think they can do this, and I am going to move that these standards as presented by Dr. Anderson be adopted as the standards of this Association. In doing that I ask that anybody here who has any objection or sees any objection to any one of these provisions, to please bring it up now. We do not want to find after we adopt them that there is something in them that is going to make it impossible for some of our members to stay members. We are going to try to bring these standards up from year to year, but we do not want to lose anyone as a member, so if any one sees anything objectionable, bring it up now.

DR. GEORGE A. BROWN (Water Valley): I think Dr. Anderson has pretty well covered this subject of

minimum standards, and I think as Dr. Lippincott has said, it is practically the same as the minimum standards adopted by the American College of Surgeons. I would just like to emphasize one or two points in regard to what Dr. Anderson has brought out. First, our records are one of the most important things in the whole minimum standards. A good history, carefully taken history, personal history, family history and history of the present illness together with a complete and careful physical examination are more essential in making a diagnosis than laboratory and x-ray findings, and I think that that should be emphasized more than anything else, that our records should be up to the standard. The laboratory is an indispensable aid to the surgeon. Secondly, in regard to the x-ray, every hospital has an x-ray laboratory, but just whether or not they are really doing what they should do I don't know. We have some x-ray laboratories that are reporting technicians making pictures, and reporting x-ray findings, and I just don't know whether they are capable of doing that or not. Anybody can take a picture but an interpretation is a different proposition. I think that we should try to improve our x-ray laboratories as much as possible and be able to make stereoscopic pictures, head pictures and brain pictures and so on and be able to have someone who can make a proper interpretation of those pictures.

Dr. Arrington brought out one thing that I think is of vital importance to our hospitals, and that is the qualification and competency of the men that are doing surgery. I think our standards for the qualifications of men doing surgery should be set at a two-year internship. I thank you.

DR. J. R. HILL (Corinth): One of the regulations as to the building is that it must be used exclusively for that purpose. I want to know if there is a ban against anyone staying in an apartment of the hospital. For instance, in one of our hospitals the superintendent lives in an apartment. I want to know if this will be prohibited.

THE PRESIDENT: In some places there are so-called hospitals situated over drug stores, others occupying space in hotels and connected with individual homes. This is certainly not good practice and could not fulfill the requirements of our students. Well organized hospitals, however, with apartments for the doctors' family would certainly not be objectionable if separate and remote from the hospital. Dr. Gardner of Columbia has operated for years an approved hos-

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I. G. Duncan, B.S., M.D., F.A.C.S.
J. S. Fleming, M.D.
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HENRY G. RUDNER, M.D.

Clinic—Internal Medicine

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Memphis, Tenn.

pital under such conditions.

MISS MARY DORSEY (Greenville): I would like to ask about the specifications on the nurses. I may have misunderstood, but was it that a graduate nurse should be in charge? Could that not read a nurse registered in Mississippi. The nurses are trying to elevate standards just as the hospital association is and we are looking to you for help. This correction will be a great deal of help to us.

DR. LIPPINCOTT: Do you mean a nurse registered in this state?

MISS DORSEY: Yes.

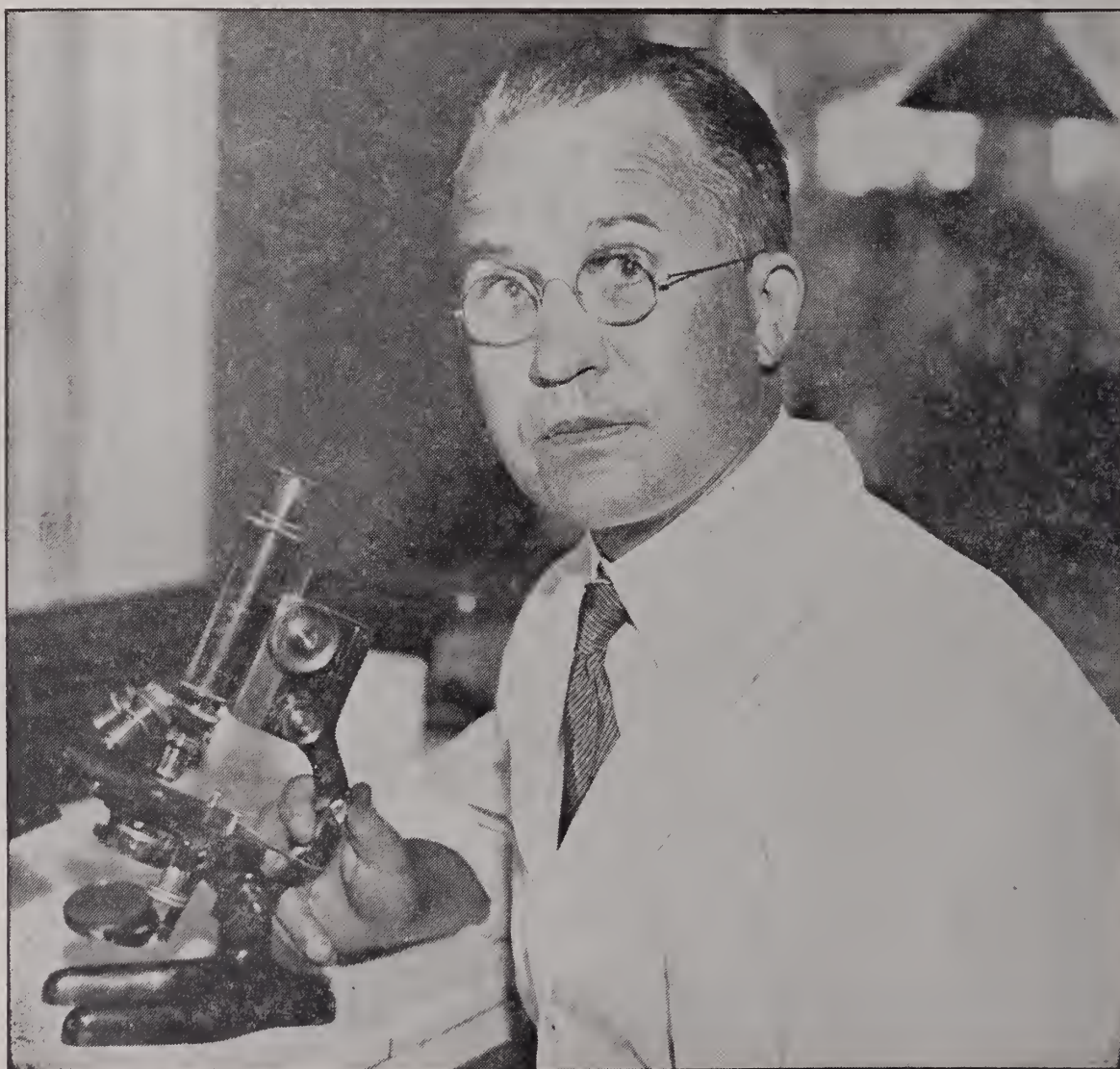
MISS FERRIS COTTER (Jackson): I would like to ask about the building being occupied. The infirmary

in Jackson has a nurse's dormitory and also doctor's offices. Would that conform to the specifications?

THE PRESIDENT: I think that would be perfectly all right.

DR. LIPPINCOTT: There was some question in working this out about requiring regular staff meetings. The American College of Surgeons is very insistent on that. It seemed to the Board as very desirable and necessary. Is there any one that would object to that provision? If not, I will accept the amendment of Miss Dorsey and just include it in my motion for adoption with that change.

Motion made that report be adopted, seconded and carried.



Dr. John A. Kolmer

Of Philadelphia, Penn., who is to appear on the program of the Mid-South in February.

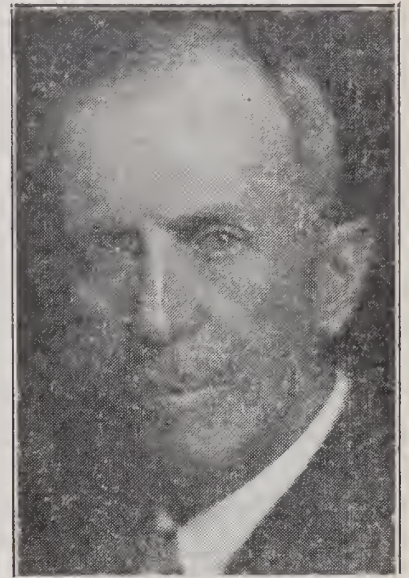
Some Essayists who will appear on Mid-South Post Graduate Medical program, in February, at Hotel Peabody, Memphis.



DR. LOGAN CLENDENNING
Professor of Clinical Medicine
Kansas City, Mo.



DR. RALPH PEMBERTON
Philadelphia, Pa.



DR. W. T. LONGCOPE
Johns Hopkins Hospital
Baltimore, Md.



DR. F. H. LAHEY
Director of Surgery
University of Iowa
Lahey Clinic
Boston, Mass.



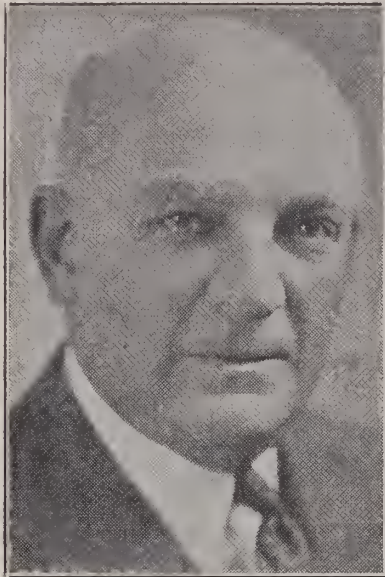
DR. O. H. P. PEPPER
Professor Medicine University of
Pennsylvania Medical School
Philadelphia, Pa.



DR. H. N. COLE
Dept. of Dermatology and Syph-
iology in the Medical School
Western Reserve University
Cleveland, Ohio

DR. E. C. ELLETT
DR. R. O. RYCHENER
1720 Exchange Building
Memphis, Tenn.

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Clinic, 847 Madison Avenue
Memphis, Tennessee
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Diseases and Injuries
Bones and Joints
Cripples and Deformities
Braces and
Orthopedic
Appliances



DR. E. S. JUDD
Surgical Section Mayo Clinic
Rochester, Minn.



DR. P. C. JEANS
Professor and Head Pediatrics
Iowa City, Iowa

The Significance of Antepartum Hemorrhage

GEORGE A. BROWN, M.D., F.A.C.S.
Water Valley, Miss.

Any bleeding at any time during pregnancy is pathological and potentially serious, however, in selecting this subject I wish to speak particularly of hemorrhage occurring in the last trimester of pregnancy. Bleeding without pain near the end of pregnancy is pathognomonic of placenta previa.

Placenta previa and premature separation of a normally or abnormally situated placenta furnish a painfully large proportion of our obstetric tragedies. Indeed they rank immediately after puerperal infection and eclampsia as factors in the maternal death rate, and they stand almost at the head of the list as factors in the fetal death rate. Prophylaxis no matter how painstaking cannot divert them. The mortality is entirely in proportion to the promptness and treatment, so that no other complication of pregnancy, may it be more truly said that the death rate, at least on the maternal side, is so largely in our own hands. Statistics show a maternal death rate of from ten to thirty-eight per cent, and a fetal death rate of fifty per cent. Central placenta previa is the most dangerous, and the danger decreases as the placenta is more situated on the lateral wall. It predisposes to infection, post partum hemorrhage and anemia. A statistical study of placenta previa at Johns Hopkins hospital shows that the incidence of placenta previa is about one case in every five hundred deliveries. It is higher in white women than in colored women. In sixteen deaths hemorrhage was responsible for thirteen. Puerperal infection occurred in over half the cases. In the cases in which the patient is admitted to the hospital in good condition with a low pulse and before hemorrhage has become

alarming, the mortality is low and does not rise if a number of hours elapse before delivery occurs. The mortality is highest in those in which delivery occurs before a poor general condition can be improved by intravenous therapy. Many of the patients who succumb are too ill or are bleeding too severely when admitted to the hospital to permit laparotomy.

As to the etiology and diagnosis: There are four forms of placenta previa.

1. Central in which the placenta covers the entire internal os.
2. Partial in which the placenta covers part of the internal os.
3. Marginal in which the placenta comes down to the internal os.
4. Lateral in which the placenta is attached to the side of the lower uterine segment.

Endometritis and a poorly developed uterus may be predisposing cause especially in primipara, while an over relaxed or dilated uterus may be the cause in multipara. Placenta previa is frequently seen in twin pregnancy, polyhydramous and syphilis. One can readily make a diagnosis from the fact that the woman is pregnant, the history of bleeding coming on without a known cause and without pain. Upon examination the cervix is found softened and more boggy. The placenta feels like soft raw beef and the presence of bright red blood on the fingers. The placenta brewy is heard low down. In premature detachment of the placenta where the latter is torn from its bed or accidental hemorrhage there is usually a history of injury, the patient falling against the corner of a table or being struck on the abdomen, or it may more commonly result from toxemia or hemorrhagic diathesis. The placenta may be raised from its bed by a large hemorrhage, which may be concealed none escaping externally. If the placenta happens to be near the os uteri the blood appears at once. Usually the hemorrhage is first concealed and then external. The symptoms are those of intra ab-

dominal crisis and hemorrhage. Pallor, fainting, weak pulse etc. The uterus enlarges and is of board like rigidity, is very painful and the fetal heart sounds are absent. I recently performed a Cesarean section on a patient who had a detached placenta with a large concealed hemorrhage, and who presented all the symptoms of internal bleeding. There were no fetal heart sounds. Immediate section was done and the patient made an un-eventful recovery. The fetus was of course dead, but had probably only been dead a few hours. I mention this case because it is a rare condition, but one in which we are apt to meet up with, and the necessity of prompt operation in order to save the life of the Mother.

TREATMENT

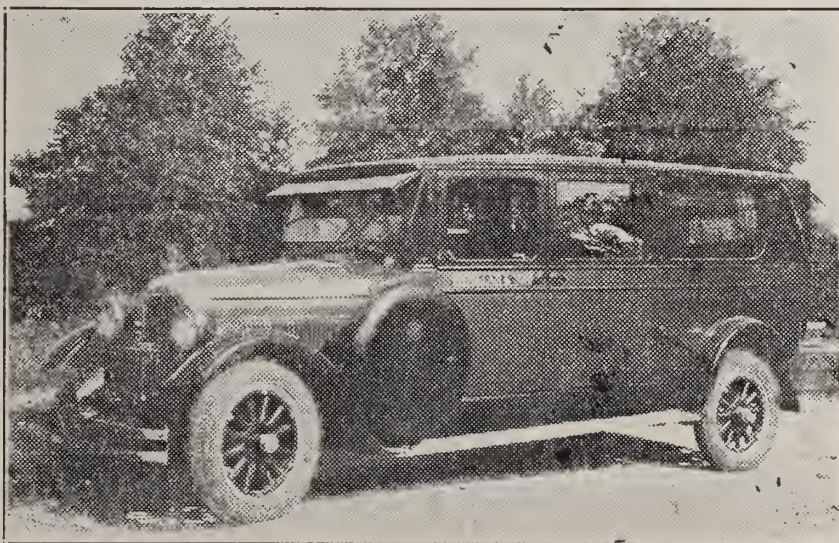
The only place for a patient in whom placenta previa is diagnosed or suspected is the hospital. The first consideration in the management of placenta previa is to stop the hemorrhage, and the only sure way to stop it is to terminate the pregnancy. There is no place for expectant treatment in a condition as treacherous as this. The period of pregnancy, the degree of dilatation, the type of previa and the condition of the Mother and child will determine the best method of delivery. The decision as to the plan of treatment in placenta previa is one for the judgment of the Doctor in charge. If you are obliged to work at home with no equipment, the vaginal pack followed by Braxton-Hicks version offers the greatest margin of safety for the Mother no matter what type

of previa or stage of pregnancy. The practitioner outside of the hospital must direct his entire attention to the Mother and cannot consider the child. The mortality rate can be decreased by the prompt hospitalization of all cases of bleeding and the more frequent use of transfusion. In continuous bleeding blood transfusion will very frequently stop the bleeding immediately, and it is an important factor which will lead to a favorable result. The routine group determination and matching of all prospective Mothers and the selection of a donor before hand, to be used if needed is highly important. Every Obstetrical patient with symptoms of bleeding should have her blood matched with that of her husband and three or four other persons who might be used as donors in case of emergency. Classical Cesarean Section in the majority of cases is the operation of choice as it carries the least risk for both Mother and child. It should be carried out in all primipara and in all cases that are not suitable for other methods of treatment. I have made it a rule that when I see a patient with the symptoms of bleeding without pain in the second half of pregnancy, to take that patient to the hospital without making a vaginal examination. Cesarean Section can be performed in fifteen or twenty minutes and both the life of the Mother and child can be saved in many instances. The most certain and rapid control of the hemorrhage can be obtained by this procedure.

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Book Review

The Medical Profession has at last become heart sensitive. It now knows every client has a heart. It is beginning to study the subject in earnest. It should do it. Heart disease leads the human death list. The profession must study heart disease in a general way and it must learn to study the individual heart of the individual. In this connection *The Heart Visible* by J. Polevski, M.D., is a most interesting and instructive book. It is published by F. A. Davis Company Philadelphia, Pa., and the price is five dollars. In this very readable book the author takes up a general consideration of the heart, the normal heart, and then the major diseases of the heart and the great vessels. He shows by x-ray pictures every condition and discusses it as he goes along. It is an instructive book for any one, especially the general man who is now using the x-ray to help him in his diagnosis. He discusses and describes the abnormal heart in all of its divisions, and conditions adjacent that may affect the heart. Abnormal actions of the heart and pericarditis are fully discussed. The normal and the pathologic aorta are ably discussed and described including aortic aneurism. The pulmonary artery and other great vessels are given due consideration. It is a book you need and will like and find very profitable. The F. A. Davis Company publishes mighty good books. The price only five dollars.

Financial Report

J. M. ACKER, Secretary

Financial Statement Northeast Mississippi 13-County Medical Society as of November 28, 1934.

Balance in Bank as of November 25, 1933\$ 41.09

Received from 1934 memberships,
187 members 1,122.00

Special Dividend from Defunct Commercial Bank & Trust Co., Aberdeen, Miss. \$275.43 was on deposit when the bank closed 10.85

Total Receipts\$1,173.94

Expenditures

T. M. Dye, Secty. 187 members\$ 748.00

Mississippi Doctor, 188. This includes subscription for the Secretary. There are no dues paid by the Secretary. This explains the difference between 187 paid for members and 188 subscriptions to the Mississippi Doctor 188.00

Aberdeen Examiner, Printing programs 67.50

Postage 12.50

Stationery 19.60

Telephone & Telegraph 13.17

Stenographer 8.54

Total\$1,057.31

Bal. in Bank Nov. 28, 1934\$ 116.63

Postage and envelopes December meeting\$ 3.96

Balance in Monroe Banking Trust Co.

December 4, 1934\$ 112.67

Markers of the Medical Past

NEW ALBANY

(Fairfield Cemetery just out of New Albany)

Dr. M. D. McWhorter

Born March 19, 1835

Died August 26, 1911

Dr. C. E. Gurney

Born September 24, 1850

Died October 12, 1908

Dr. B. F. McWhorter

Born September 13, 1827

Died March 12, 1889

Dr. Richard Holder Speck

Born December 9, 1873

Died September 23, 1908

(Buried in Liberty Cemetery)

Dr. M. L. Henry

Born January 23, 1844

Died January 7, 1913

CALHOUN CITY

Dr. Granville L. Fox

Born November 3, 1868

Died June 28, 1914

Dr. J. G. Ryan

Born January 13, 1821

Died May 7, 1891

Dr. W. B. May

September 6, 1878

50 years

Dr. James Meem Calhoun

Born December 10, 1832

Died June 9, 1915

BLUE MOUNTAIN

Dr. Henry J. Lowrey

Born November 26, 1850

Died November 1, 1911

Dr. J. Franklin Merritt

Born April 15, 1876

Died May 20, 1924

Dr. A. R. McWilliams

Born August 2, 1828

Died January 6, 1917

Dr. J. F. Merritt

Born October 7, 1835

Died March 21, 1913

Dr. C. G. Rucker

Born September 17, 1867

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Study and Treatment of Cancer.

- Died January 2, 1913
(In Macedonia Cemetery, Blue Mountain)
Dr. Oliver P. Palmer
No dates given
Dr. Samuel M. Mauney
Born November 27, 1890
Died November 1, 1918 in Nantes, France
Brought back to U. S. November 15, 1920.

VICKSBURG

- James M. Hunt, M. D.
Born June 11, 1830
Died July 17, 1888
Dr. E. F. Howard
Born May 31, 1874
Died June 9, 1933
George P. Crump, M.D.
Born October 27, 1813, Virginia
Died June 22, 1860, Minnesota
Dr. George Yerger Hicks
Born April 16, 1866
Died April 29, 1929
Dr. Charles W. Peters
Born 1837
Died 1881
Dr. T. J. Catchings
Born September 16, 1806
Died May 13, 1883
Thomas A. Heath, M.D.
Born July 14, 1854
Died January 18, 1932
Dr. T. J. Harper
Born March 25, 1801
Died January 18, 1886
Dr. Hugh Bodley
Died July 15, 1835
"Murdered by the gamblers"
(Tomb is in square up town)
Dr. R. T. Turnbull
Born May 5, 1826
Died February 13, 1882
Our Father
Dr. A. O. H. Hardenstein
Born near Missolonghi, Greece
Born January 12, 1807
Died October 15, 1880
Dr. James Hagan
A native of County Derry, Ireland
By adoption a citizen of the U. S.
Who departed this life 6th day of
June, 1853—Age 38—A martyr.
Dr. Geo. W. Markham
Son of W. F. and S. R. Markham
Born July 4, 1826
Died December 4, 1853
Dr. Le Grand C. Capers
Born April 16, 1835
Died December 2, 1877
Dr. O. S. Iglehart
Born May 2, 1837
Died September 14, 1893
Dr. David W. Booth
Born July 17, 1840
Died August 27, 1878
Dr. Guy C. Haralson
Born August 24, 1882
Died October 24, 1918
First Lieutenant medical corps

- Dr. Thos. B. Benedect
Asst. Surgeon C. S. A.
Born 1811
Died June 1, 1863
Dr. Wit Stuart
Born February 6, 1821
Died January 28, 1873
Dr. A. T. Mitchell
Born September 5, 1865
Died July 18, 1905
Dr. Robert H. Broadnax
Born 1804
Died April 23, 1850
Dr. A. O. Hardenstein
Born August 9, 1846
Died March 22, 1914
Dr. James Smith
Born 1797
Died 1883

Book Review

Clinical Laboratory Methods by Pauline S. Dimmett, Ph.G., Medical Technologist for the Stout Clinic, Sherman, Texas.

This is one of the most complete little books on laboratory methods that has been published recently. It contains any laboratory method that the student or internist ever needs to know and gives a very simple and concise outline to follow. All of our well known laboratory tests and many new ones are given. One of the most convenient points about this book is that before each procedure there is given a list of material and the apparatus needed for that

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Invalid Chairs, Eyes in stock.

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particular experiment. Another valuable point is that at the end of each procedure the author frequently interprets the results giving both normal and abnormal findings.

There are twenty-eight illustrations and eight colored plates in this little book of one hundred and fifty pages. I don't believe the student or interest could find a more complete book than this on laboratory methods. Price, \$2.00.

Definite Diagnosis In General Practice

BY W. L. KITCHENS, M.D.

With a Foreword by

JOHN H. MUSSER, JR., M.D.

Professor of Medicine, Tulane University Medical School, New Orleans, La.

Dr. Kitchens' book offers an entirely NEW method of diagnosis—new in arrangement and procedure.

The purpose of the book is threefold:

1. For use as a **QUICK REFERENCE**
2. As a simplified **DIFFERENTIAL DIAGNOSIS**
3. As an **"ELIMINATIVE"** or **"SELECTIVE" DIAGNOSIS**

SCOPE

This new book is designed for the greatest possible use by the largest number of doctors. To that end no attempt has been made to include the symptomatology of all diseases to which man is heir—to have done this would have made the book too unwidely and difficult of reference. Dr. Kitchens has selected, for consideration, the symptomatology of some 407 diseases which may be met in a wide and varied practice. The rare and unusual diseases have not been considered. In the exhaustive study of these 407 disease entities Dr. Kitchens encountered 506 symptoms of definite diagnostic significance which are listed in the **SYMPTOM INDEX** and are considered separately in **PART I**.

THE ARRANGEMENT

The book is divided into **TWO PARTS**.

PART I includes, first, a **SYMPTOM INDEX** which presents in alphabetical order 506 symptoms of 407 diseases, each symptom being preceded by the page number on which that symptom is found.

Following the **SYMPTOM INDEX** each symptom is presented on a separate page and under each symptom are listed those diseases in which that symptom is of important diagnostic significance. Furthermore, each disease is preceded by the page number in **PART II** on which the full symptomatology of that disease is found.

PART II presents, first, 506 diseases, one to a page, under each of which are presented those symptoms of diagnostic significance, giving first Subjective Symptoms, then Objective Symptoms, and finally Laboratory Findings. Each symptom is preceded by the page number in **PART I** where that symptom is listed.

Following the presentation of diseases, there is a **DISEASE INDEX** listing in alphabetical order the 506 diseases, each disease being preceded by the page number in **PART II** where the full symptomatology of that disease is found.

USE

AS A QUICK REFERENCE: If it is desired to review quickly the symptomatology of any disease, the reader turns to the disease in **PART II**. Or, given a symptom, if it is desired to learn at a glance those diseases in which that symptom is found, the reader turns to the symptom in **PART I**. By devoting a separate line to each disease, in **PART I**, and a separate line to each symptom in **PART II**, the study of either symptoms or diseases is greatly facilitated.

AS A DIFFERENTIAL DIAGNOSIS: To quickly differentiate any two or more diseases, the reader turns to those diseases in **PART II** and checks the complete and possible symptomatology of one against the other. Again, the columnar form of arrangement will greatly aid in this process.

AS AN "ELIMINATIVE" or "SELECTIVE DIAGNOSIS": This is the same method of procedure that physicians practice mentally—it is not new in that sense. But the unique arrangement whereby each symptom and each disease has a separate page number makes this procedure more simple, more rapid, and obviates the possibility of overlooking or forgetting any symptoms of importance. The details of how the method is used are given on pages VI to X in the book.

A COMPOSITE BOOK

The material for this book has been obtained from standard textbooks, encyclopedias, systems of medicine, dictionaries, case histories and autopsy records. It is not based upon the personal experience of any one man or group of men, but **represents the broad clinical experience of many authorities**. Only in this way would it have been possible to present the atypical as well as the typical symptomatology of disease. The inclusion of atypical symptomatology is essential, as it is the unusual case rather than those met every day which requires the use of a reference book on diagnosis.

A BOOK WHICH MAY ALWAYS BE KEPT UP-TO-DATE

The plan of Kitchens' book provides ample space for any additions which the doctor may wish to make as a result of his own experience. If in any disease symptoms are encountered which are not listed under that particular disease in **PART II**, then it is very easy to incorporate these new points. It is only necessary to write in the symptom under the disease in **PART II**, being sure to give the symptom the proper page number which is assigned to it in the **SYMPTOM INDEX**. Then turn to that symptom in **PART I** and add the name of the disease, being sure to place before it the proper page number which is determined by the number of the page in **PART II** on which the disease is covered. In this manner the doctor can make **KITCHENS** accurately reflect his own clinical experience, greatly increasing its value from year to year.

Be sure to attend the meeting of the **Northeast Mississippi Thirteen Counties Medical Society, Fourth Quarterly Meeting, Tuesday, Dec. 18, 1934 at Tupelo, Miss., at the Methodist Church.**



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Campus of forty acres, with huge forest trees, and springs of pure freestone water flowing about one hundred thousand gallons daily.

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No extra tuition charge for courses in commercial subjects or in home economics.

Entrance only by graduation from accredited high school or by examination. We have no preparatory department.

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Mild Nervous and Mental Disorders and Drug and Liquor Addictions
COVINGTON, LOUISIANA

OVER FORTY-THREE YEARS OF SUCCESSFUL OPERATION

Doctor, we wish to call your attention to the merits and claims of the above named Institution, especially for mild Nervous and Mental Disorders—for Drug and Liquor Addictions and Infirmities of Old Age.

This Institution is true to organized medicine and its principles.

It is registered by the American Medical Association.

It is a member of the American Hospital Association.

It is a member of the State Hospital Association.

It is a member of the National Association of Private Psychiatric Hospitals.

The staff of physicians of this Institution are all members or Fellows of the American Medical Association and its subordinate societies. They are physicians, who after having graduated in medicine, have had the best of medical training in the large graduate schools of medicine and hospitals of the East and are especially prepared for their respective specialties. These physicians give their entire time to the patients in the sanitarium doing no outside work.

Its clinical and pathological laboratory is complete and under the supervision of two of the best pathologists in New Orleans.

Correct diagnosis is the key note for the New Fenwick Sanitarium—no half way, and haphazard diagnosis is made here.

The methods of examination are most thorough. Each patient is given a complete Mental, Neurological and Physical examination including all laboratory examinations. Treatment is individual for each according to indications.

The latest and best approved methods of therapy are carried out here at all times.

Hydro-therapy, physio-therapy, electro-therapy and drug-therapy are used as indicated.

The New Fenwick Sanitarium is noted for the individual attention given each patient among pleasant and home-like environments.

This Institution prides itself on the character of nourishment and diet furnished the patients, not only at meal time but otherwise.

For forty-three years it has cared for and brought back to health Mental and Nervous patients, many cases being brought to us from other Institutions.

In the last forty-three years, it has studied and treated many Liquor and Drug Addicts.

The buildings of the New Fenwick Sanitarium are new and constructed especially for the class of patients it treats. They are built of pressed brick, steel and concrete, with every comfort, electric fans, steam heat, etc. All rooms are outside rooms with good ventilation and attractively furnished. The grounds are well kept and inviting with flowers, shrubs, shade trees and rest benches.

This Institution is patronized by the better class of people. Its services are offered to the discriminating physicians for the type of patients named above as a high class Institution in every sense and meaning of the word.

It is located in Covington, Louisiana, a section so noted for its health qualities, and is easily accessible by concrete highways, railroads and water routes. It is only one hour and a half by automobile from the center of New Orleans.

THE MISSISSIPPI DOCTOR

OFFICIAL ORGAN

MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

VOL. 12

BOONEVILLE, MISSISSIPPI, JANUARY, 1935

NO. 8

NEW YEAR

Good-bye, old year of weal and woe.

It breaks our hearts to see you go.

God bless you for the good you brought

And pardon you for wrongs you wrought.

All hail to you, O, blithe New Year,

With smiling face and eyes so clear,

May every day you bring be bright

With health and wealth and dear delight.

Oh, teach us how to lessen pain

And usher in the righteous reign

Of strength of body, peace of mind

And grace of heart to all mankind.

Forbid that golden fees or fame

Shall ever be our utmost aim.

Let every doctor learn to be

Like Jesus Christ of Galilee.

—David E. Guyton,

Blue Mountain, Miss.

Written special for The Mississippi Doctor.—Ed

THE N.Y. ACAD.
OF MEDICINE
AUG -9 1937
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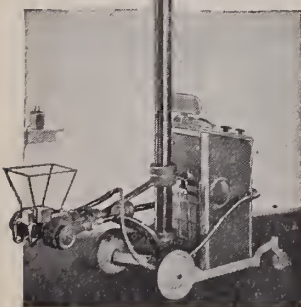
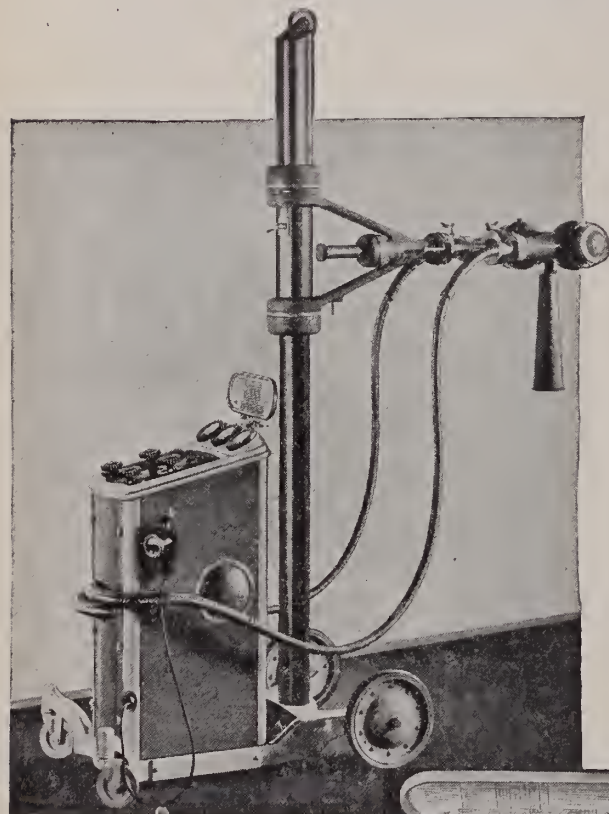


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The Journal with a vision, the delivery of modern medicine to the masses at less cost to the individual and more profit to the practitioner. The champion of the small hospital, the hub around which this service must be built.

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EDITORIAL

Tupelo entertained the North East Mississippi 13 County Medical Society in fine style at the December meeting. About one hundred doctors were present. Drs. Hugh Gamble, J. C. Culley and T. M. Dye were visitors much appreciated within the state. Dr. and Mrs. Preston Hunt of Texarkana, Texas were delightful guests from the Lone State State. Drs. Holder and Jacobs of Memphis were duly appreciated. Dr. E. M. Holder is a native of Mississippi. We are always so glad to have him. His wit is keen, his wisdom is profound, and his knowledge of medical and surgical subjects is broad and thorough. The guest speaker was Dr. G. A. Hendon of Louisville, Kentucky. He is also a native of Mississippi. He spent some years at Booneville. His paper on the treatment of ulcer was most interesting. Never before have we had a visiting essayist listened to more eagerly. The society is anxious to have him again. He has a standing welcome back to the old home state, and especially to our local society.

You will note a complete list of the officers for 1935. It was with much regret that Dr. J. M. Acker Jr., Superintendent of the Hospital for the Insane at Jackson, could not serve the society longer. He has been very faithful and most efficient. To take his place we congratulate the society and Dr. A. J. Stacy on his selection as secretary. He will do this work well. He is courteous and obliging, and will not leave anything undone for the good of the society. Dr. S. R. Deanes of West Point was elected president. This was a happy selection. He is Dean in name and perhaps in years of service in the practice of medicine, in knowledge and wisdom he may well be called dean. We may have more to say about him in our next issue. Dr. D. D. Baugh, of Houston, read a scholarly paper on mental diseases. This was his first paper we believe before the society. He has ever in mind the welfare of the physician and at the same time the good of the people. We will have more to say about his new field of work. Dr. A. G. LeRoy was on the program for the first time, but his paper was carried over until the next meeting. The next meeting will convene in March in West Point, the home of the new president. Those West Point boys are mighty clever. You want to make ready now to attend.

You will note in this issue a list of the exhibitors for the Mid-South Post Graduate Medical Assembly which will open February 12th. There may be some others to follow. The exhibitors have played a big part in building this society to where it is. They have largely financed it and they have talked it up. They have been exceedingly nice. They deserve your every consideration. It is worth the price of the meeting to see what they have to offer. They are brothers in the cause as we see it. Without them we could not go forward as we have in the practice of medicine. Give them a hearty hand shake. See what they have for you and for the good of your clientele. Tell them that you appreciate them and the part they are playing in this one of the best medical societies in the United States. Dr. Levy is due much credit for the fine number of exhibitors we have and in this way is due much credit for the success of the Mid-South. You will note the program of the February meeting in this issue. Read it over and be convinced.

THE HOSPITAL QUESTION

It is indicated that two or more of the candidates for governor will have planks in their platforms dealing with the question of hospital care for the poor and probably advocating subsidies for various counties with a view to providing medical care for charity cases no matter where they may be located.

It is to be hoped that these gentlemen will not attempt to sponsor anything like the 'pork barrel' hospital act which was rejected by the last legislature.

It seems that the call for the extension of hospital facilities comes to a large extent from the northeast part of the state and due to the fact that it is a heavy voting section, it will command attention.

However, any hospital program designed to cater to sectionalism or further retard or handicap the charity hospitals of the state will prove a boomerang.

The charity hospitals have been forced to take terrible punishment. With the meagre appropriations grudgingly given by the state they have been forced to retrench to an unbelievable extent.

It is to be hoped that the candidates who are concerning themselves about the hospitals will make their positions clear on the charitable institutions.—Natchez Democrat.

PORK BARREL. SECTIONALISM. Just about the usual stock argument of those who have a charity hospital supported by the state and located in their own community. They have no thought, no care, nor sympathy for the teeming thousands who live in sections so far away from charity hospitals that to reach them is out of the question. This state has five "full-time," exclusively charity hospitals all located south of the geographical center of the state and all supported by taxation. We, too, say that there should be no sectionalism in dealing with the sick poor. It is sectionalism AGAINST north Mississippi that deprives our poor of charity hospital facilities. One at Jackson, one at Vicksburg, one at Natchez, one at Meridian and one at Laurel. Every family located in the south half of the state is within 100 miles of a tax-supported charity hospital and the great majority of families are much nearer than one hundred miles and many families have them at their doors. And they don't fail to use them. Thousands of families in the north half of the state live from two hundred to two hundred and fifty miles from a state-supported hospital. **ANY SECTIONALISM IN THAT?**

The idea of giving support to small hospitals, or more correctly stating the question, the apportionment of charity funds to counties on a basis of population, is not sectionalism, it is not pork barrel legislation. It is far from either suggestion. It is the fair, just and scientific way of reaching the poor of the state. The sectionalism is the policy of giving it all to a few large towns and denying any help to other sections. We have had that sort of sectionalism and the people are getting tired of it. We want no pork barrel legislation. We simply ask that instead of sending the whole hog to one favored community that it be cut up and passed around. While these favored sections have had ham and shoulder and bacon and sausage and spareribs and "hog jowl" and "pickled pig feet" the state-at-large has not even had "chitlings." Our people are trying to work out

a plan to decentralize the big manufacturing plants and put more of them in small towns so as to mix enough industrialism into agricultural communities that we will have a better balanced business system. The idea is good. If good for manufacturing why not good for the hospital?

Candidates for governor and for the legislature all over the state will be asked to make known their position on this matter and they would as well begin now to climb down off of the fence and take one side or the other. We, the people, by gum, are going to use barbed wire fences in this campaign and we may shoot a little TVA juice into the "top rail" and woe it will be to the candidate who undertakes to "ride" one of these fences.—Booneville Independent.

You will read with interest and with profit the address of Dr. Chipps of Corinth, president of the Mid-South Dental Association. North Mississippi appreciates Dr. Chipps and his fine work. The dental profession is making progress. It is in reality a part of the medical profession. We need to cultivate a closed relation with the dentist. It takes the physician, the dentist, the nurse and the pharmacist to make up the medical profession. They should all work as a unit. The sooner this is realized the better it will be for the profession and for the people. Each one needs the other. All make up one, the medical profession. The Mississippi Doctor has said this over and over. For the good of the people, they should work hand in hand. Efficiency and economy is forcing us to work as a unit. Dr. Chipps has been going forward in the dental profession. This profession in the Mid-South is wide awake and rendering a fine service. As a man eats so he sleeps, thinks and lives. Good teeth are very essential. The pulling of a tooth and the filling of a tooth constitute a very small part of the work of the dentist. Preventive extraction and even preventive filling is the challenge to this profession. We extend our hand for a closer cooperation with the dentist.

Have you paid your dues to your local medical society? If you have not do not delay it longer. Organized medicine needs you. You need the help it can give you still more. There are many new problems coming up that the profession must meet. We must be organized to do this. You should take an active part in your local medical society. The first requisite is to pay your dues. You owe some time to organized medicine. The man who does not take an interest in his local and state medical society will not reach the heights in the profession that he might if he did. Dr. A. J. Stacy is the newly elected secretary. He is doing this work for the love of service. It carries no salary. You owe it to him to send your dues at once, if you have not and save him the trouble and the expense of writing you. Pay your dues today. Do not wait.

The next meeting of the North East Mississippi Medical Society will convene in West Point. This little city will give us a royal welcome. Dr. Stacy will give you a good scientific program. The doctors of this fine town will do their part and more. Let us show Dr. Deane and the new secretary that we appreciate them by a full attendance.

Dr. Defoe has astounded the world with his ability as a baby doctor in taking care of the quintuplets. Glory and honor to him. We have thousands back in the back woods just as good, just as resourceful, the forgotten fifty percent of the medical profession if you please. It is wonderful what they are doing with the chance they have. Their incomes are limited. They have but little equipment. But they have native ability. They know human nature. They have professional minds, medical souls and missionary hearts. They are the salt of the earth. Among other things The Mississippi Doctor is fighting for recognition of the forgotten Dafoes of the profession.

The Mississippi Doctor is still going at the depression rate of one dollar for one year. It has a regular circulation of about eight hundred and once a year five thousand copies. It covers the field of medicine and surgery and it deals with the medical problems and the problems of the life of the doctor. Let us have your one dollar.

You will appreciate the paper of Dr. Guy Caldwell in this issue on fractures. On this subject he is one of the outstanding men of the Mid-South. We expect him to be a regular contributor to The Mississippi Doctor from now on.

The Mississippi Doctor has a mission. Its purpose is to develop rural medicine and to affiliate it with the medical centers. This is the thing that needs to be done for the good of all concerned.

The doctor who has been licensed to practice medicine should have a right to use opiates if he sees fit. The big dope peddlers is where the big trouble comes, generally speaking.

The general practitioner should be the corner stone of the medical profession. Eighty-five percent of the practice should be done by eighty-five percent of the practitioners.

Charity funds in Mississippi for the indigent sick should be distributed on a per capita basis throughout the state. This is just and fair.

To practice medicine successfully you need to know your patient in all of his relations to life as well as the disease, or the germ attacking him.

A good many people seem to think that Christ was a mighty nice man from what they have heard about him.

Talk not of wasted service. No service has yet been wasted. The Divine law has guaranteed payment with interest.

Pay your local medical dues at once.

The exhibits and the information the exhibitors can give you is worth the price and your time at the Mid-South.

Ingratitude is the worst cancer that ever took hold of a doctor.

The editor of Hygeia seems to think that no one has suffered from the lack of medical care in the United States of late. He got this idea from the mayors of towns that he wrote. This is the poorest way we know to get real information on this subject. About fifteen to twenty percent of the people in Mississippi die "by themselves," die without a doctor. Leaders of the medical profession must look beyond the city limits, otherwise more than half the people will be left out.

The February issue of The Mississippi Doctor will give much space to advertising the Mid-South. It has not failed to do its part any time. It went out five thousand strong last year in the interest of a larger attendance. No other journal has ever thought of doing this for the society. No other one will do what The Mississippi Doctor has or will do, not likely.

We appreciate every paper from every essayist in this issue. We are sure that every reader will.

How Far Should State Health Departments Go?

Baby's Proper Feeding the Doctor's Problem. One of the most frequent inquiries received by the State Department of Health is that concerning an infant's diet. It is, of course, impossible for the Department to advise or give suggestions regarding a suitable diet for any infant. It apparently is not generally realized by the laity, that food requirements vary for every infant. One infant may thrive on a given food while the next will not tolerate it. Consideration must be given to the fundamental requirements of each infant such as the protein, fat, carbohydrate, water, mineral and vitamin requirements. So far as is known, breast milk is the only universally suitable food for infants. If a baby is deprived of this he should be taken to the family physician and placed on a proper feeding. It is only after a thorough history has been taken and a thorough physical examination has been made that the proper food can be advised for an infant. It is quite obvious that such service is out of the realm of the State Department of Health.

The Department, however, has literature on infant care that is available on request. The Children's Bureau at Washington also publishes some excellent pamphlets on infant and child care which should be read by every mother who wishes to give her child the best of care and training.—From Ohio Health News, Nov., 1934.

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Approximate Age Incidence of the More Common Mental Disorders

DOUGLAS D. BAUGH, M.D.
Houston, Miss.

In preparing this paper for discussion I did so with the realization that the subject of mental diseases, which is a highly specialized branch of medicine, does not appeal to most physicians; yet mental disease is so omnipresent and common that, it seems to me, its very prevalence in everyday practice, if for no other reason, warrants more consideration and study of this most important and neglected side of the patient. This is especially true, since the general practitioner usually sees the patient first, and his advice is usually followed as to the management or disposition of the case.

It is our duty and responsibility, then, to know more about the mental side of our patients, so that we may be able to handle them more intelligently.

The patient's mental and physical beings are so intimately bound together and interdependent that it is imperative to study the patient as a whole mental and physical unit.

I have found that one of the most convenient methods of studying this subject as a whole is to divide it in groups according to the age at which one would expect that particular type of disease. Accordingly, I have prepared an outline that, to my mind, helps simplify some of the confusion with which we usually regard the several types of mental disorders. I have tried to avoid technical language and involved statistics.

Obviously it is impossible in a brief discussion as this to call your attention to more than a few of the more outstanding symptoms of the various types. For this reason, I plan to confine the greater part of my remarks to those disorders which the physician meets most commonly. You will observe that each type has its own peculiar characteristics. If we learn to be more familiar with these characteristics the patient with mental symptoms will mean something more to us than simply "a crazy person."

- | | | | |
|---|---|--|----------------------------------|
| I. Before Birth | { | 1. Hereditary traits of certain mental diseases | |
| | | 2. Accidents, anomalies, chemical changes, diseases from mother | |
| | | 3. Syphilis | |
| II. At Birth | { | 1. Trauma | { a. Hemorrhage |
| | | | b. Hydrocephalus |
| | | | c. Nerve tract injury |
| | | 2. Asphyxia neonatorum | |
| III. Birth to Adolescence | { | 1. Appearance of mental deficiency symptoms | |
| | | 2. Appearance of congenital syphilis symptoms | |
| | | 3. Infantile paralyses and meningitis | |
| | | 4. Epilepsy | |
| IV. Adolescence to Middle Age | { | 1. Manic-Depressive Psychoses | { a. Manic type |
| | | | b. Depressive type |
| | | | c. Mixed type |
| | | 2. Dementia Praecox (Schizophrenia) | { a. Hebephrenic |
| | | | b. Catatonic |
| | | | c. Paranoid |
| | | 3. Psychoneuroses | { a. Neuresthenic |
| | | | b. Psychesthenic |
| | | | c. Hysterical |
| | | 4. Constitutional Psychopathic Inferiority (C. P. I.) | |
| | | 5. Syphilis | { a. Neuro-syphilis |
| | | | b. Paresis (Dementia Paralytica) |
| | | 6. Paranoia | |
| | | 7. Huntington's Chorea | |
| V. Middle Age (40-55 years). Involutional Melancholia | | | |
| VI. Old Age. Arterio-sclerosis | { | a. Symptoms | |
| | | b. Cause of symptoms | |
| VII. Miscellaneous | { | 1. Traumatic psychoses | |
| | | 2. Intoxications from disease, as nephritis, tuberculosis and pellegra | |
| | | 3. Cardio-Vascular disturbances | |
| | | 4. Organic brain disease, as tumor, encephalitis, and cerebral hemorrhage. | |
| | | 5. Alcohol and narcotic addiction | |
| | | 6. Fever and drug delirium (Bromides, barbiturates, etc.) | |

(It should be remembered that these age groups are only approximate—that many overlap.)

The first period we will consider is the period before birth. Even in the embryonic state there are factors that may affect the mentality in addition to any hereditary mental traits that may be present. We may mention trauma; congenital anomalies in the development of the central nervous system; conceivable effects from strong drugs or chemicals taken by the mother in insufficient amounts to cause death to the fetus, as in attempted abortion; and somatic disease of the mother. Some of these factors are rather remote, but congenital syphilis, the last in this group, is not uncommon, and it attacks the central nervous system from the beginning, although the symptoms may not be apparent until the child is found to be backward in development.

At birth there are two factors that may affect the mentality. The first is trauma from a difficult delivery or from instrumentation resulting in cerebral hemorrhage, ultimate hydrocephalus, or actual nerve cell or tract injury. The second is prolonged asphyxia neonatorum. If the brain substance is deprived of oxygen for a period of from seven to eight minutes the parenchymal cells perish, and as you know, they are not regenerated, resulting in permanent mental damage. For this reason deep narcosis and profound anesthesia should be avoided in obstetrics except in cases where it is particularly indicated.

In the period from birth to adolescence the symptoms of mental deficiency become apparent. The child is backward, being slow to walk, and to talk, and later being dull in school. The mental symptoms of congenital syphilis also appear during this period and are in many ways not unlike those of mental deficiency. Some are, however, almost precocious along certain lines. In addition to the physical stig-

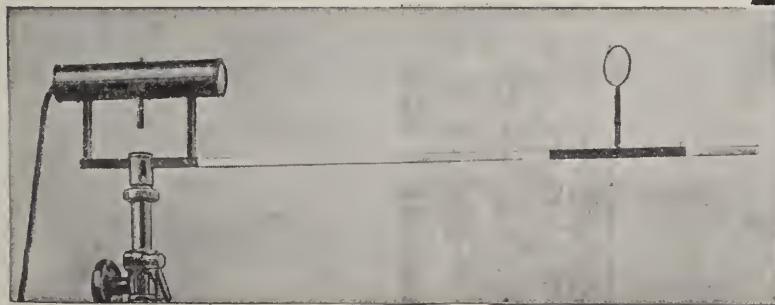
mata, such as "snuffles," eruptions, Hutchinson's teeth, periostitis and interstitial keratitis, they are especially susceptible to all kinds of acute infections, to which the vast majority succumbs before adolescence.

It is not generally recognized that infantile paralysis and meningitis often leave residual mental scars. This is true in infantile paralysis in some cases, even when only the lower part of the spinal cord seems to be affected. The signs of these conditions are roughly those of mental deficiency, or rather of arrested mental development. There is usually paralysis present and a history of having had the disease. One would be surprised, even though the incidence of mental complications is not great, to see the number of these cases in mental hospitals.

Epilepsy, the last member of this group, makes its appearance in about three fourths of the cases between the ages of eighteen months and puberty, although it may occur at any age. Recurrent convulsions in this period most often mean epilepsy. In this condition mental symptoms sooner or later supervene, consisting of gradual deterioration and of episodes during which time the subject is violent and dangerous, and which occur especially following seizures. The grand mal attacks where the subject falls with a convulsion at irregular intervals, are familiar to all of us. Petit mal attacks, which are just as indicative of epilepsy, may be manifested by no more than the subject stopping and staring in a fixed direction for an instant, at the same time, perhaps, turning pale momentarily, whining, or breathing rapidly a few times.

The next group from adolescence to middle age is one of the most important of all, including as it

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does manic-depressive insanity and dementia praecox (schizophrenia). A large percentage of institutional patients have one or the other of these psychoses, and in more than half of the cases there is a hereditary background.

Manic depressive insanity is so called for the reason that the patient may be on either the hyperactive (or manic) side of the normal "fence," or on the hypoactive (or depressive) side. In this type of insanity there can often be brought out a history of previous mild attacks. If the patient is on the manic side he is hyperactive and often unmanageable, has a feeling of exuberance, is given to laughing, singing or profanity, talks constantly, and will sometimes go days without sleeping or eating. In short, he represents the average layman's conception of an insane person.

If the patient is on the depressive side the picture is completely reversed. He wants to be off alone to brood over his fancied troubles. If the case is well advanced he has a worried facial expression, a dejected appearance, and does not eat nor sleep well as in the manic phase. He feels that there is nothing left for which to live and wishes he were out of the way. The majority of suicide cases, perhaps, belong in this group, and it is interesting to note that the morbidity of this disease has increased since the world-wide depression. A patient may have the mixed type of the disease where he is at the same time depressed and hyperactive. This patient is restless, miserable, and is inclined to walk the floor and cry, more especially at night. Manic depressive insanity has been described (Clark) as being an exaggerated state of a normal tendency. Hallucinations and delusions are not a prominent feature in this psychosis.

Dementia praecox or adolescence dementia occurs during or soon after the adolescent period, as a rule; however, some cases do not manifest themselves prominently until a later period. It is characterized by gradual mental disintegration, loss of judgment, and a complete change in the personality in subjects who may have formerly been brilliant or even precocious. Delusions and hallucinations (especially of hearing) are frequent. Although the trend in psychiatry is to call all types simply dementia praecox instead of trying to differentiate them, there are three rather well defined classical types.

The first is the hebephrenic type, which is earliest of the types in its appearance, usually being manifest by the age of puberty. These patients lose interest in their surroundings, are indifferent about everything, are very "silly" and inclined to laugh much without provocation. They are very asocial. The catatonic patient is likewise asocial, preferring to be off in a corner alone. If he is in the catatonic state he remains until exhausted in whatever position he is placed, stares straight ahead and appears to be in a dream-like state, refusing to talk or to eat. What is said to the patient seems to make no impression whatever, although he may recall it later.

If he is in the excited stage he is hyperactive and talkative and will sing and walk occasionally to the point of exhaustion, somewhat after the fashion of manic patients already mentioned. To distinguish the two becomes a frequent diagnostic problem.

The paranoid type makes its appearance at a later period than either of the other two types. It

is characterized by delusions of persecution and suspiciousness. They do not deteriorate mentally so rapidly, retaining a fair degree of intelligence until late. Many are able to carry on an intelligent conversation where their delusions are not concerned, making it difficult for the average person to realize that any mental trouble is present. They believe that certain influences are at work against them and that a certain person or persons are responsible for it. They are convinced that these imaginary enemies are trying to harm them by putting poison or germs in their food, by "thinking in" on their thoughts, by setting electricity or radio waves against them, or by other fantastic methods of persecution. These people are in a constant war with their imaginary enemies and are constantly trying to escape their persecutions, going to great lengths to do so, even to occasionally destroying their "enemy." They are thus dangerous, especially so, since they are subtle and crafty in their methods and may strike without warning.

A noticeable feature of some forms of insanity, but more especially of dementia praecox and manic-depressive insanity, is the tendency to perversions of the deep emotions such as love and religion. They may turn against the ones they formerly loved the most. A person who formerly took little interest in religion may become fanatically religious, or a formerly devout person may become blasphemous, profane and immoral.

Under the term psychoneurosis we group that class of patients whom we are prone to call loosely "neurotic." It is one of the most common forms of mental aberration, but it is only the more extreme cases that we consider as being insane. Every doctor is familiar with this class, both to his profit and at times to his very great exasperation. The patient is characteristically self centered, self pitying and introspective, spending much time in thinking of his ills, of which he may have a choice collection, and in which he may even take great pride.

This last statement is especially true in the case of the neuresthenic type of psychoneurosis. Here the patient has a multiplicity of ills affecting various parts of the anatomy. He goes from one doctor to another taking great quantities of medicine, from which he may receive temporary benefit. He is benefited most by dramatic therapy and by suggestion. For this reason these patients are among the best

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customers of quacks and chiropractors.

The psychesthenic type is distinguished by having morbid doubts and fears and by having great difficulty in making up the mind or coming to a decision. A parent may have the morbid doubt, for example, that she is rearing her child right—thinking that if another course had been taken things would have come out all right, etc. I know of an interesting case in a neighboring town where the party has the morbid fear that something dreadful will happen to him if he leaves his home town, just what it is he is not sure, but for years he has been afraid to go outside the city limits. These fears may take the most bizarre forms.

The familiar hysterical type of psychoneurosis completes the group. It may take a great variety of forms, such as hysterical paralysis of a limb, hysterical pain, or most familiar of all, a hysterical "spell," where the patient, usually a female, apparently becomes unconscious and may seem to be in great agony of mind and body. Hysterical attacks are usually precipitated by something disagreeable or irritating to the subject.

Constitutional *psycnopathic* inferiority (or C. P. I.) is a term used to designate a certain ill defined group that has an inferior constitutional makeup causing them to be more or less irresponsible and to have lack of judgment, making them very easily influenced. A great number of criminals and delinquents come from the C. P. I. class. There is usually a history in both boys and girls of such as running away from home, roving over the country, forging checks on the parents and later on others, fighting, hard drinking, being placed in jails, reformatories

and asylums, stealing cars or other valuables, being married several times while in their teens, being morally delinquent, etc. Most every community has one or more with such a history.

Syphilis of the central nervous system, if early is termed neurosyphilis; in the late and terminal stages paresis, dementia paralytica, or general paralysis of the insane. In addition to the classical peripheral nervous signs such as muscular weakness, tremor of lips, irregular pupils, stumbling gait, etc., there are central symptoms, such as poor memory, irritability, emotionalism, moral degeneracy, and complete change of personality, depending on the stage of the disease. Delusions of grandeur occur at one time or the other in about fifty percent of cases where the patient thinks he is a multi-millionaire or that he can whip a whole army. I might add parenthetically that in a fairly large series of cases I found only about fifty percent of paretics to have Argyll-Robertson pupils, which is a much lower percentage than most estimates give. The laboratory diagnosis is made fairly easily by blood and spinal fluid examination.

Paranoia is included here only to complete the picture. It is comparatively rare. The essential feature of paranoia is delusions of persecution without the dementia seen in dementia praecox.

Huntington's chorea may be termed an organic brain disease, but since it is also always hereditary, it is added at this point. It is a chorea that appears usually between the ages of twenty-five and forty. The choreic movements are slow and deliberate in contrast to the quick movement of juvenile of Sydenham's chorea. The characteristic grimacing and twisting

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movements become progressively worse as the patient grows older, occasionally becoming so violent that the patient may jump off the bed. The mental picture is that of progressive dementia and deterioration with fits of dependency.

The only mental disease with which I am familiar that is peculiar to the middle or involutional age is involutional melancholia. Most cases are in females during or following the menopause. The principal indication is depression, as in manic-depressive insanity, except that it is extremely profound. These patients are the most miserable creatures imaginable. Life is a dreadful burden, the future is hopeless, and they try to destroy themselves at almost every opportunity. They are self-accusatory, even though they have led an exemplary moral life, magnifying trivial incidents of childhood, for instance, into unpardonable sins.

If a person is so fortunate as to go past middle life without having had some mental disorder, arteriosclerosis may still overtake him. It is a natural accompaniment of age, but for reasons not well understood it is more pronounced in some than others. The arteries supplying the brain tissue become sclerotic and the bore is reduced, so that the necessary blood volume for the brain's nourishment is reduced, resulting in consequent cerebral anemia and disintegration.

If a person is only moderately sclerotic he has the syndrome we term "childishness;" if more severe, it may reach the stage of a psychosis. These people are irritable and hard to please, are resistant, restless, especially at night, imagine they are elsewhere, and they have a tendency to want to wander away. Their memory for recent events is poor, but the memory for remote events, such as childhood incidents, is often comparatively well preserved. The blood pressure is high. Mental disease developing after the age of 65 in a person who has not had previous mental disease is almost caused by arterio-sclerosis.

The last group is a miscellaneous one, belonging to no particular age class. In the case of traumatic psychosis there is a history of head injury. The subject is "strange" and subject to episodes during which he may be violent and dangerous.

The intoxications from disease present, in addition to signs of toxemia, evidence of the somatic disease at fault and the reaction of fear. The patient is afraid that something is going to happen to him, that the examiner will harm him, etc. Sometimes a manic reaction is precipitated. In the case of pellagra the mental picture is a little more varied even, and more or less permanent mental damage is left. Pellagra is often a result as well as a cause of mental disease. Patients with other psychoses, such as dementia praecox, where they will not take sufficient food over a period of several weeks, frequently develop pellagra.

Cardio-vascular disturbances excluding arteriosclerosis are said to cause psychoses. Neuro-vascular disturbances are included; ordinary syncope or fainting being temporary cerebral anemia of neuro-vascular origin. Mild chronic or intermittent states such as this occur from a sluggish circulation or from neuro-vascular disturbances.

Alcohol and narcotic addicts do not necessarily have psychoses, but they are included in this miscellaneous group for the reason that many are fundamentally psychically unstable, making it easy for

them to become addicts. If alcohol or drug addiction is carried on over a period of years there is some inevitable mental deterioration.

In the case of psychoses with organic brain disease, the symptoms and signs should be more or less evident; if a tumor, headaches, vomiting, choked discs, and perhaps some localizing symptoms and signs; if encephalitis, double vision, tremor, staring, slow deliberate movements; if cerebral hemorrhage a positive history of a paralytic stroke, however mild, together with emotional episodes.

Fever delirium is evident and is mentioned only to complete the picture. A very moderate degree of fever may cause delirium. Drug delirium is becoming more of a problem since all drug stores now dispense many forms of sedatives over the counter without the necessity of prescriptions. Self medication and having physicians' prescriptions refilled without their knowledge promote the increase in drug psychoses and drug addiction other than narcotics. Bromides and barbitol compounds are chiefly at fault. Numbers of patented sedative drugs contain one or the other as the chief ingredient. When these drugs, especially bromides, are taken over a long period in large doses in typical delirium develops. The patient wanders aimlessly about in a dreamy, muttering state. They are prone to fall off the bed, which is such a common observation as to be of some diagnostic value.

Out of ten bromide patients that I have seen only one who had a skin eruption, and then it was not very evident. The laboratory diagnosis of bromide intoxication is now available, which indicates the amount of bromides present in the patient's blood serum. With treatment the average case recovers in from two to eight weeks, the patient seems to awaken suddenly from a dream to find himself in a strange place. A delirium without fever to account for it should always arouse ones suspicion of a drug psychosis.

We have covered in a brief way some of the most outstanding characteristics of almost the entire field of mental disorders from before birth through old age. If you who are interested will classify your mental patients according to the age group, as well as according to the outstanding symptoms, I am sure you will find it of value in arriving at a tentative diagnosis.

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Sinus Infections in Children and Some of their Sequelae*

DR. TRAVIS MCGAHEY
Birmingham, Ala.

Through the closer association of Pediatricians and Rhinologists, it is very recent, just during the past ten years that we have come to fully realize the prevalence and seriousness of paranasal sinus infections in children. From earliest infancy, the sinuses most frequently infected are present, and sufficiently developed to make them readily accessible to invading organisms. Reviewing them briefly in the order of the frequency of their infection, the ETHMOIDS honeycomb the lateral masses of the ethmoid bone located between the upper part of the nasal fossa and the orbit. There are from three to fifteen cells present on each side most of which do not have a gravity drain when the child is in the erect posture. At birth these cells measure about ten by six by four millimeters. At five years they have more than doubled in size, and are half as large as they ever become.

Second in frequency of their involvement is the MAXILLARY ANTRUM. At birth it is the size of a small marble. At three years it is more than twice this size or approximately half the size of the adult antrum. This illustrates how rapidly these sinuses de-

velop and how reasonable it is to assume that they would be frequently involved. The antrum, as you know, does not drain by gravity, the natural opening being in the middle meatus of the nose high up near the top of the sinus.

The SPHENOID is very small at birth, it develops more slowly than the others and is very rarely infected in children.

The frontal is not present at birth. It migrates from the anterior ethmoid, and develops near the end of the first year. At the eighth year, it has nearly reached the adult size. It varies in size, shape and number is usually assymmetrical, and drains into the frontal recess of the middle meatus. It is rarely infected in childhood but the pus from the frontal may readily drain into the ethmoid cells or the antrum.

A study of the histological anatomy and physiology of the nose, demonstrates the wonderful mechanisms of protection with which nature has endowed us, and explains the reason why the nose is not more frequently involved than it is. In the nasal vestibule for a short distance we find the stratified flat epithelium with the horny cells of the skin. At the middle of the vestibule this same epithelium continues with the loss of the horny cells but the addition of hairs growing from the elastic submucosa. The sweat glands are replaced by mucous glands. In the respiratory part of the nasal cavity proper we find a stratified ciliated columnar epithelium intimately attached to the periosteum and perichondrium of bones and cartilages. This mucosa varies in thickness, contains many mucous and serous glands and a very rich blood supply. These cilia play a very important part in re-

*Read before Staff Meeting Houston Hospital, Houston, Miss., Sept. 27, 1934.

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moving any foreign matter from the nose. The current of the cilia is toward the pharynx, and it is surprising how quickly a dye will show up in the pharynx after being applied to the anterior portion of the nasal mucosa. Under pathological conditions this membrane may thicken to four to six times normal.

The mucous membrane of the sinuses is continuous with that of the nasal cavity through the ostium of the sinus. It has the same characteristics except it is thinner, less vascular, and has fewer glands. The current of the cilia is toward the ostium of the sinus. These cilia also play a remarkable role in keeping the sinuses healthy and clean.

Chiefly among the etiological factors producing sinus disease in children, are those conditions which interfere with free ventilation and drainage into and from the nasal cavity. The adenoids behind, and enlarged turbinates in front are the two chief offenders. They obstruct the breathing, and cause a retention of secretions in the nose which forms an excellent culture medium for the organisms which happen to be present. The stasis thus produced with the presence of virulent organisms promptly leads to infection, and this infection spreads by continuity of tissue into the sinuses. After the sinus is infected, these same enlarged turbinates interfere materially with drainage from the sinus. Other conditions which may interfere with ventilation and drainage of the nose are, deviated septum, pale boggy allergic mucosa, deformities, etc. Each of these acute attacks produces a certain amount of permanent damage to the lining membrane of the sinus, and impairs to some extent, the efficiency of the ciliated cells, leaving the sinus more open to attack in the future. The severity and outcome of these attacks depend of course upon the virulence of the invading organism, the resistance of the patient, and the patulence of the ostium. Endocrine disorders, metabolic disturbances and lowered resistance from various causes are sometimes predisposing causes. Sinusitis often complicates colds, measles, scarlet fever, whooping cough, and pneumonia. It is most frequently seen between the ages of four and nine but has been found in infants just a few days old. The causative organism is usually staphylococcus, streptococcus, pneumococcus and micrococcus catarrhalis. Either one or all.

We have no reason to believe that sinusitis occurs more often than in former years, but it is more often recognized because of the more careful examinations being made. The diagnosis is often very easy but it is sometimes more difficult than one might think. I first look for a nasal discharge. This may be thin and watery, or thick tenacious pus. It may be often seen adhering to the posterior pharyngeal wall, and often has a foul odor. These children are usually mouth breathers, they usually have a cough, many have pharyngitis, and we often find asthma and bronchitis associated with sinus infections in children. They occasionally have gastro intestinal symptoms. We sometimes find an elevation of temperature, septic in character, or simulating that of tuberculosis. The child is usually irritable, and if larger, will complain of headache. Transillumination is a very valuable adjunct in making the diagnosis, especially in larger children. X-Ray, especially of the antrum, is of more value in children than in adults, due to the fact that the bones are thinner. It is also

valuable in determining the sick and position of the sinus before attempting any operative procedure.

The treatment is much more difficult in children than in adults. Each case presents its own problem, and the treatment will vary depending on the age of the child, the nature, extent, and duration of the infection, and the sinus involved. One mistake that we so-called Specialists sometimes make is that we forget that the patient has a heart, lungs, intestinal tract, liver and kidneys. In other words, we are so engrossed with particular organ we are treating, that we are inclined to neglect the others. The general treatment of these sinus cases should begin with the removal of as many predisposing causes as possible, particularly the adenoids and tonsils if they are infected. Every step should be taken to insure proper drainage into and from the nasal cavity. The diet should be regulated to correct any nutritional defects. It has been demonstrated that foods rich in vitamin A have a remarkably beneficial effect on sinus infections. We therefore recommend a liberal amount of milk, cream, butter, eggs, vegetables and fruits, if the patient's general condition will permit. In the acute cases small doses of atropine or ephedrine are often given. In larger children, codein with aspirin are given. I have never gotten any results with stock or autogenous vaccines in these cases.

The local treatment should have for its purpose the aiding of the natural physiological processes of the nose. Dr. Dean of St. Louis has, just a few months ago, completed a series of motion pictures of the activity of the ciliated cells of the nasal mucosa, and reports his observations of the effects of certain drugs upon them. Normal salt solution had no retarding effect upon their activity, but when more salt was added until a four per cent concentration was reached, their activity ceased. Ephedrin Sulphate in the strength ordinarily used in the nose ($\frac{1}{2}\%$), had no slowing effect on ciliary activity. Cocaine, in the strengths ordinarily used, stopped or greatly retarded their activity. Adrenalin promptly stopped all their activity. Menthol and camphor had no effect. Argyrol produced a marked interference with ciliary activity. To me this means that we should be careful in the selection of the agent we use for shrinking the swollen turbinates and soothing the inflamed mucosa. In the acute cases, I am still using either an aqueous or oily solution of ephedrin dropped or sprayed into the nose, followed by some colloidal silver preparation. I have also used a mixture of adrephin one dram with neo-silvol 20% solution q. s. one half ounce, sev-

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eral drops in the nose at four hour intervals.

Surgical procedures should be very conservative. We should try to secure ventilation and drainage with the least possible trauma and destruction of tissue. It is sometimes necessary to irrigate the antrum, and this should be done by making the opening with the trocar as in adults below the inferior turbinate, the sinus being irrigated every two or three days with normal salt solution. This is continued for several treatments and the amount of pus will usually diminish gradually until the sinus is clear. If it does not show a tendency to heal after several treatments, I enlarge the opening either with a rasp or biting forceps. I have never had to do a radical antrum operation on a child, and contrary to the belief of some, I know that they can be cured with conservatism and patience.

In some ethmoid and frontal infections after shrinking the mucous membrane, we have often used gentle suction with good results. In children we never use over five pounds of suction, and this is absolutely without danger and is very helpful in relieving the headache as well as promoting drainage of the sinuses. In rare cases it is necessary to remove the anterior tip of the middle turbinate.

The complications and sequelae of sinus infections are many. Most of them have been reported in the last few years. Drs. Marriott and Dean of St. Louis were the first to report the connection between the sinus infections and certain pulmonary conditions in children. So typical to them was the picture that they have coined the expression, "sinus lung." It was found that many children had been confined to hospitals for the tuberculous, suffering with every

symptom of tuberculosis, including loss of weight, afternoon temperature, night sweats, etc. The X-ray findings resembled those of tuberculosis, having an enlarged hilus shadow, peribronchial thickening and shadows extending out into the parenchyma of the lung. These infections reach the lung from the sinus either through lymph or blood stream, by continuity of tissue or by droplet infection. In my opinion it is the actual drainage of the infected material from the nose into the lung. These cases clear up rapidly when the proper sinus treatment is instituted.

I have seen a number of middle ear infections associated with sinus infections in children. This is usually brought about either by blowing the nose or in the swimming pool. I recently treated such a case. This little girl, age ten, was brought in with a complaint of earache on the left side. On examination we found not only the middle ear abscess, but the left antrum filled with pus. There was every evidence that the sinus had been infected for a long time but neither the child nor the mother knew anything about it.

Of course it is impossible to discuss every possible complication of sinus infections. I will, however, give a list that someone has prepared, which is believed to be a practical one for clinical purposes. Acute or chronic pharyngitis, with congestion extending downward from the naso-pharynx along the posterior faucial pillars, hypertrophy of the lymphoid follicles in the posterior pharyngeal wall, submaxillary or cervical adenitis, frequent colds, recurring epistaxis, otitis media, phlectenular conjunctivitis, orbital cellulitis, optic neuritis, persistent cough without demonstrable intrathoracic lesion, acute or chronic

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bronchitis, bronchiectasis, anemia, anorexia, malnutrition, asthma, myocarditis, chorea, acute rheumatic fever, arthritis, recurring fever of unknown origin, nephritis, pyelitis, meningitis, cavernous sinus thrombosis and brain abscess.

I have personally seen only a few of these conditions that could be traced directly to sinus infections. The recurring colds, the pharyngitis, the ear infections and the sinus lung are the most frequently encountered complications of sinusitis in children, in my opinion, the sinuses rank second in importance, being led only by our old friend the tonsil, which still leads the parade.

Otitis Media In Infancy

VAN C. TEMPLE, M.D.
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One of the most frequent and annoying problems of the first few years of life is the infection of the middle ear that may accompany or follow almost any of the diseases of this period of life. Otitis media is rarely a primary disease in infancy, the invasion of the ear nearly always being secondary to infection of the respiratory tract.

The peculiar anatomy of the ear and throat in infancy renders this organ particularly vulnerable to attack. The eustachean tube in an infant is much shorter and has a larger diameter than that of an adult. The amount of adenoid tissue in an infant is usually considerable. Because of these conditions and the fact that respiratory infections are so common in infancy, it is easy for infected materials to be forced into the eustachean tube with coughing, crying or vomiting.

Possibly this condition is seen more frequently in hospital practice than in private practice; certainly it is seen much more frequently in the undernourished infants with poor resistance. But in any class of practice anyone dealing with children in the first two or three years of life cannot help but be impressed with the frequency of this condition and the ease with which it can be overlooked. In fact it seems that almost every respiratory infection in infancy that is severe enough to give the patient fever is accompanied by some involvement of the middle ear, whether this goes on to suppuration or not.

Many times a puzzling infant, whose only symptoms are fever, crying, vomiting and red throat, will be found to have bulging ear drums, where there are no local symptoms to point to this condition. It is this fact alone that I wish to emphasize in this paper—that otitis media is one of the most frequent conditions that confront us in the treatment of sick babies and that only by a careful examination of the ears can it be diagnosed. A good rule to follow is to suspect it in every sick baby, regardless of the primary condition, and to be satisfied that it is not present only after a careful examination of the ears.

Familiarity with an electric otoscope—that should be a part of the equipment of any man that includes pediatrics in his practice—will save many a headache to the doctor. It will also save a good bit of explanation when some baby that is sick with a cold and upset stomach begins to have a purulent discharge from one

or both ears, with great improvement and fall in temperature following the appearance of the discharge.

The common organisms affecting the respiratory tract are usually responsible for this condition. From a pathological standpoint otitis media in infants differs somewhat from the same condition in adults or older children. The middle ear is much more frequently affected, the cavity is smaller and in the first few months of life is occupied partly by a spongy embryonal tissue called mesenchyme. This tissue is easily infected and swells considerably when infected, obstructing drainage and often prolonging the infection. The mastoid antrum is more a part of the cavity of the middle ear in infancy and is involved a considerable part of the time.

As to the symptoms of acute otitis media in infancy, there are very seldom any symptoms that of themselves make you think of the ear as the seat of any trouble. The usual symptoms of any acute infection are about all that you will have—fever, crying, loss of appetite, restlessness, vomiting and at times diarrhea, especially in the summertime. Occasionally the infant, particularly the older ones, will roll his head, sometimes scratch marks may be seen in the ear when he has clawed at it. Usually pressure on the tragus will elicit a vigorous wail of protest. There are practically no symptoms then, that we do not see with the ordinary respiratory infection. But whenever you get a baby with fever, crying, vomiting, etc., whose illness seems out of proportion to the amount of trouble that you can find in the throat, lungs or elsewhere, watch out for the ears. I know that pediatricians seem to be fanatics on the question of ears in

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babies. This is only because when properly examined the ears are so frequently found to be the seat of the trouble.

No doubt when left alone or unsuspected many of these ears will clear up of themselves finally—probably by drainage through the eustachean tube—without rupture of the drum. But in these cases they will usually prolong the illness considerably, and by interfering with nutrition, decrease the babies chances of recovery from whatever the primary condition may be. If you can keep a baby taking a large amount of fluids and a moderate amount of nourishment through an ordinary illness he will usually recover. If, from an unexpected bulging ear drum he is vomiting everything he takes he will have a hard time getting well from anything, even if the primary trouble is only a cold.

If one makes a practice, especially during the cold months, of examining daily the ears of infants he is treating for colds, sore throats, bronchitis, pneumonia, etc., he will be surprised at the frequency with which he will discover involvement of the ears, and the satisfaction he will get when they are properly treated.

By this almost routine examination of the ears we become familiar with the normal ear drum of the infant and easily detect the early departure from normal, the injection, that means infection, on through to the dull, bulging drum that means pus. I have never gotten anything but confusion out of trying to read about what a pathological ear drum looks like, so I shall not attempt a description here.

This paper is intended to be simply a little reminder to think about otitis media in any sick infant

whose progress is not satisfactory, so I shall not take up much time in discussing the treatment complications, etc. Ordinarily the treatment depends upon whether or not there is a collection of pus in the middle ear.

Before any pus has formed, when the picture is simply that of an inflamed ear drum, without any dullness or bulging, besides the general treatment of the infant about all that can be done is in the way of drops in the ear and nose. Five to ten percent phenol in glycerin seems to be about as effective as anything to drop in the ear for the alleviation of pain. Neo-silvol, argyrol or other antiseptic solutions combined with ephedrin are fairly satisfactory as drops in the nose to help combat the respiratory infection, and to help establish drainage through the eustachean tube.

After pus has formed, if the drum has not already ruptured it is best to incise the drum to establish drainage. This is usually done at the point of greatest bulging. Following incision there is usually a great deal of improvement in the condition of the infant. He is quieter, sleeps better, the temperature falls and he is able to take more fluids and nourishment. Often there is a great deal of improvement in the primary condition affecting him.

Irrigation of the ear with saline, boric acid or soda solutions will usually clear up the trouble promptly. At times, however, probably due to the small size of the ear and the presence of the swollen mesenchymal tissue present the opening made in the drum will close or become stopped up and require re-incision. When this occurs there is a cessation of the discharge

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and a return or aggravation of the general symptoms.

In summarizing I wish to leave with you only one thought. To always suspect otitis media as a complication in a sick baby and be satisfied that it does not exist after a careful examination of the ear drums, when first seen and repeatedly during the illness.

President's Address

MID-SOUTH POST GRADUATE DENTAL CLINIC
Memphis, Tennessee, October 22, 1934

Fellow members of the Mid-South Post Graduate Dental Clinic and guests:

Fifteen years ago, a small group of dentists with vision met together in Memphis and organized what was to be known as the Tri-State Dental Clinic. After fourteen years of active service marked with heights of enthusiasm and depths of despondency, but always with the conviction that there should be a dental organization in the South to rank with any like assembly in the nation, we, at a meeting last October decided the time was ripe to enlarge the scope and field of action, and with a change in name enlist the co-operation of all states of the Mid-South and now is presented with what we hope will merit your entire approval, the first meeting of the Mid-Southern Post Graduate Dental Clinic.

With much personal misgiving, but naturally a great pride in the distinction of being President, I



Dr. H. D. Chipps of Corinth, Mississippi who presided as president at the last meeting of the Mid-South Dental Association at the Peabody Hotel, Memphis, Tennessee.

wish to assure you that if this meeting does not reach the high mark for which we have so ambitious, aimed. It may be due to the lack of executive leadership, but not from sincerity of purpose or intensive effort.

No one could have had more loyal support than has been given me by all the officers and committeemen, and their friendly cooperation has been most inspiring and appreciated. Their efforts in behalf of the success of this organization deserve the highest consideration.

Especially do I want to acknowledge with most sincere thanks, the untiring efforts, the constant application, the instant action and service of our most efficient Secretary, Terrell R. Ogden, and the equally efficient General Chairman, Elvin P. Voyles. Were I to comment on individual activity and assistance of committeemen, it would require a roster of some length, but to all, I am most grateful.

Naturally during this first year there have been many experimental details in making contacts for new and much greater membership, and a great deal has been done to improve the organization in many respects, yet much constructive effort remains for succeeding administrations. I am aware, however, that the success of a meeting does not depend so much upon the respective officers as it does upon the receptiveness of the prospective member. He is the ultimate objective, for without his presence and interested participation, the best program ever built would be futile.

One of the most pleasant experiences of the past year and one that has given me a realization that the future holds great things in store for us, is the evident enthusiasm with which this South-wide Post Graduate Dental Clinic idea has been met. From every quarter has come approval of its plans and purposes, which is indicative that this clinic should be perpetuated and grow from year to year until it becomes one of the most active in the United States.

As you know, in this first year of re-organization, we have been working without a constitution and administrative by-laws and I would recommend therefore, that a committee of three be named for the purpose of drafting such articles and empowered to set up such executive offices and committees as will be needed in the future life of this body.

Inasmuch as we propose the continuance of this clinic, and as there is such great detail involved in its growth, I would suggest that the office of President-Elect be established in order to have some one in training for the arduous duties ahead, and that this officer be selected in rotation from the several states comprising the Mid-Southern group. Other details as may be necessary in the future activity of this assembly are to be worked out by this committee.

It is the thought of many, and one which I believe entirely feasible, that the enthusiasm now so manifest for a permanent post graduate clinic can be crystallized into more definite form with the aid of an official organ. This Journal would give us a means of contact with members of our group four times a

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year and also enable us to favorably reach prospective members. It should be and can be self-sustaining. All papers read at our scientific sessions could be published and other data of interest to the profession be abstracted, and the economic aspect of dental practice in so far as we are immediately concerned, could be reviewed in its columns.

To the distinguished President of the American Dental Association, Dr. Frank M. Casto, who has honored us with his presence and will so graciously address us, we want to positively assure him, that at all times, the Mid-Southern Post Graduate Dental Clinic stands ready and willing to cooperate to the fullest extent possible with the A. D. A. In deference to the fact that the American meeting, over which Dr. Casto will preside, is to convene at New Orleans at its next session and at about the time for our regular meet, it has been suggested that the 1935 meeting of the Mid-Southern be deferred, or that only a business session be held in New Orleans during that time. I would recommend that this be decided in our general session.

If there was ever a time in the history of our profession when every ethical dentist should be a member of local, state, national and affiliated societies and take an active part in organized dentistry, it is right now.

Most serious problems that have far reaching consequence have come upon us, and in these years of economic travail, it will require all the sanity and wisdom of a united profession to overcome the difficulties confronting us. Changes in our government have been so rapid, the growth of urban population so great, and with the millions of unem-

ployed, we are faced with a task of the gravest importance in handling the dental health service of a nation. How to deal with these social and economic problems is largely for us to determine. Many solutions are proposed, but as yet no rational method has been demonstrated as being entirely acceptable for correction of conditions now existing.

It is regretable that our dental leaders have not yet agreed on a plan that in any great measure meets the necessity of the times. Much discussion that is so radical and extreme that many fear we are on the very brink of State or Panel dentistry, and any program that would compromise our professional rights, or interfere with the sacred relation of dentist to patient should be opposed vigorously.

Appalling need of dental relief is mounting higher each month, while thousands of competent dentists have either closed their offices for lack of clients or are idle much of the time.

The Federal Emergency Relief Administration recognizes that professional men must retain their standing in their respective communities if they are to be rehabilitated. Harry L. Hopkins, Federal Relief Administrator, through a recent ruling has made it possible for dentists and other professional men to obtain home relief at specially designated offices, and under a plan worked out in Washington known as the White Collar or Professional Project, intended to benefit such professional men as those whose clientele is not sufficient to provide the necessities of life, yet not entitled to be placed on the relief rolls, they are enabled to carry on by obtaining employment under the FERA.

While we of the South have greatly felt the stress

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and strain of these years of depression, I believe we have been more favored than many of our professional brothers. Our gravest concern, then, should be how we may help those who need us most.

We, the members of the Mid-Southern Post Graduate Dental Clinic have been signally honored in having President Franklin D. Roosevelt address to us his personal message. This is in effect a direct challenge when he says, "... the dental needs of school children ... show an appalling neglect and lack of facilities for needed dental treatment. Some method must be found whereby these conditions may be corrected. It is the duty of organized dentistry to cooperate in the solution of these vital health problems."

The first constructive action for this body to consider, should be that of cooperation with the A. D. A. in establishing its set of principles as adopted by the House of Delegates last August 9th, as follows:

"The Special Committee on Dental Economics believes there is a possibility that some form of legislation will be presented to the people of this country, dealing with what is called "Economic Security," which will provide old age pensions and benefits for unemployment and health.

Therefore, we wish to place before the American Dental Association before such legislation becomes an actuality, the following principles, believing them to safeguard the best interest of all concerned.

1. In all conferences that may lead to the formation of a plan relative to this subject, there must be participation by authorized dental representatives.

2. The plans should provide dental care for indigents and needy children.

3. The plans should give careful consideration to the needs of the people, the obligation to the taxpayer and the interests of the profession.

4. The plans should be flexible so as to be adaptable to local conditions.

5. There must be complete exclusion of proprietary or profit-making agencies.

6. All features of dental service in any method of dental practice shall be under the control of the dental profession, as no other body or individual is educationally equipped to exercise such control.

7. All legally licensed dentists of a locality should be eligible to serve under such regulations as should be adopted.

8. Persons eligible to such service should be free to choose their dentist from the list of those who have agreed to furnish service under the adopted regulations.

9. Freedom of practitioners to accept or reject patients and freedom of all persons, who so prefer, to obtain dental service other than that provided by such plans, must be assured.

10. An adequate program should be provided for public education on the need of the opportunities for dental care."

The dental relief that is being given under the FERA is doing a great and humane good to a small percentage of those on the relief rolls but in twenty-one states there is as yet no cooperation from the profession with this national relief program and only five states of the entire South have arranged to help carry on this work.

That which is being done, however, is very inadequate as it does not begin to reach those that need

it most, and these are the children whose plight calls forth such a positive statement from the President when he says, "... some method must be found whereby these conditions may be corrected."

Any plan to be successful must be one that can be under the control of organized dentistry, and be elastic enough to fit the varying conditions in all the states of the union, and if I may suggest such a plan, I would recommend that the dentists coming under the classification of White Collar workers be organized under the FERA to make a complete examination of the mouths of all pre-school and school children appearing on the accredited relief rolls in each state as promptly as efficiency will permit. This will give a complete picture of the dental needs of this class, with the White Collar projects to end with the examinations.

Then let the profession adopt a schedule of reasonable fees, based on the costs of dental care as compiled in 1929, and through the proper state relief authorities memorialize the President to earmark a sufficient sum of money to pay for the dental service for this group alone, the work to be pro-rated as indicated in Article 7 and 8.

I believe the President's message indicates that he will agree wholeheartedly to such a plan as this. With his dictum in regard to our cooperation and his assured concurrence with our tenets as expressed in Article 6, in saying, "That all features of service in any method of health practice may be under the control of professional bodies," we will then have the opportunity of "making dentistry available for all of our people."

In presenting such a plan to this group of representative dentists, I have the hope of so stimulating your collective interest that at the present meeting, this or some more practical suggestion may be determined upon which will hasten the solution of this grave problem that so vitally concerns the future well being and health of the rising generation.

In closing, I desire to express, in the name of the

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Mid-Southern Post Graduate Dental Clinic, appreciation and thanks to Reverend Hugh E. Kelso, Hon. Watkins Overton and Dr. Frank M. Casto for their presence here and participation in this program. I also wish to extend thanks to the American Dental Trade Association for their recognition of this meeting and their wonderful display of exhibits; and to those who by their advertising contributions have made it possible to prepare and distribute such an excellent program. the newspapers for their generous publicity; the hotels for their ample preparations for our care and comfort; and to all others who have helped in any way to make this meeting possible.

To the distinguished clinicians who will appear on our program we are profoundly grateful that they have consented to be with us. Their contributions merit our praise and assure a most successful meeting.

It is difficult to adequately express our sentiment for the distinct recognition given us, and the entire dental profession, in having the message from President Franklin D. Roosevelt, a man that is sincere in purpose, tactful in method, fearless in action, and above all—imbued with a love and understanding of his people. I hope that in some way we can show our genuine appreciation of such a momentous communication, and evince our reverent thanksgiving that such a thoughtful, able, courageous man of vision is at the head of this great nation.

I thank you.

President's Remarks

DR. J. M. HOOD
Houlka, Miss.

Gentlemen of the Northeast Mississippi Thirteen Counties Medical Society:

This meeting brings to a close my term of office as your president. I express to you my very deep appreciation for the privilege of presiding over this Association during this year. The office of president of this, the largest component medical organization in Mississippi, is an honor of which any doctor should be proud—the honor I consider far above any merit on my part.

I sincerely thank every member of this society for the courtesies and cooperation extended me, and especially do I deeply appreciate the work of our efficient secretary, Dr J. M. Acker. No society ever had a better one than we have had in Jim Acker.

I realize with the great honor of being your president goes a great responsibility. I feel I have fallen far short in this responsibility. However, realizing what organized medicine means to the profession, I have put forth great effort to increase the membership of our society. Out of the 200 doctors in our territory 190 are members, making a 95 percent membership. Every eligible doctor in this territory should become a member and make us 100 percent. I want to give you the counties having 100 percent membership: Alcorn, Calhoun, Clay, Chickasaw, Monroe, Oktibbeha, Noxubee, Tishomingo, Pontotoc. Itawamba lacks 1, Lee 4, Lowndes 4, Prentiss 1. Certain gentle-

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men in each county have put this over, and deserve much credit for doing so. I would suggest that each one of us appoint ourself as a committee to see that every eligible doctor becomes a member of this society.

I believe that the papers read and discussed before the society are equal to papers read before any society. I believe the work done over the territory by the members of this society is equal to the work done any where. We have well equipped hospitals and as good surgeons and diagnosticians as can be found any where. We have the best edited small Journal in the south. We deeply appreciate the work done by our editor, Dr. W. H. Anderson. If we will read what is put in the Journal, we will be better doctors.

We are very much indebted and deeply appreciate the work done by the pioneers of this society. In 1903 Dr. G. S. Bryan of Amory was elected secretary of his County Society. He conceived the idea of enlarging his society and of building up one of the best medical centers in the State. About 1906, he, together with Felix J. Underwood and Carl Feemster, Sr., met with the Chickasaw County Medical Society. They, with W. C. Walker, of Houlika, J. Rice Williams, J. S. Evans, and R. M. Boyd of Houston, Charles Davis of Trebloc, and D. F. Morgan, of Okolona, organized the Four County Medical Society, composed of Monroe, Lee, Itawamba, and Chickasaw. From this we grew into the Thirteen Counties Medical Society, which is the best medical center and the largest and best medical society in the state. Dr. Bryan must have reached his goal. These doctors whom I have mentioned, with some others whose names I do not have, I consider the pioneers of this, The Thirteen Counties Medical Society, and they deserve much honor. When we stop to think of the progress organized medicine has brought to our country, why not strive to make every county 100 percent?

To more fully realize the progress that has come to the profession as a whole, go back to the far distant past where the practice of medicine had its origin. The ancient ancestor of the present generation was a savage who roamed the earth ignorant of the phenomena of his existence or of his surroundings. He was superstitious and feared his fellowman. He attributed all disease to evil spirits. In order to protect himself from these evil spirits he invented good spirits, charms and mystic rites. In time some one member of the tribe appeared to be more successful than others in combating these evil influences so he became the medicine man of the tribe. This medicine man became a priest who served good spirits. Then religion was added to the practice of medicine. Throughout many ages the art of medicine was mysticism, magic and religion.

About 400 years B. C., Hyppocrates recognized the error of mysticism magic and religion in medicine. He practiced beside observations of symptoms, examined secretions of the body and investigated the digestibility of various foods. He established the practice of medicine on a rational basis. He also composed a Code of Ethics to govern the conduct of physicians which is the basis of the present Code of Ethics. And from the day of Hyppocrates the science of medicine has progressed up until today, and with the scientific practice of medicine, we have prolonged life and lowered the death rate. The eradication

of yellow fever, almost complete eradication of smallpox, diphtheria and typhoid fever, and a reduction in the cases of malaria and tuberculosis has been the result.

In retiring from this very important office, I suggest to you that we work with the end in view of securing 100 percent membership in the territory of our organization during 1935, and that we work whole-heartedly with the incoming secretary in having the most interesting programs for each of our future meetings. In doing this we should, as individual members, resolve never to refuse a place on the program when offered, and to answer all letters of the secretary promptly. No greater honor can come to any member of this society than to be placed on its programs. We should accept promptly and do our dead level best to prepare worthwhile papers. In doing this we help the society and also make ourselves better doctors.

I suggest that every doctor over 70 years of age in this territory be made honorary members of our society.

Again let me tell you that I appreciate the honor of being your president during the year 1934, and I promise the ensuing officers my full cooperation as a member during the future.

And I want to stop here to express my appreciation to Dr. Underwood for his very efficient help in many ways for I believe I voice the sentiments of every member in saying that he has been more help in more ways than any other one member.

I am going to ask the society to give Dr. Acker a rising vote of thanks for the very efficient service he has given us during these years he has been in office.

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Read this list of those who will deliver addresses and make your hotel reservations at once.

Dr. Ben Witt Key, New York, N. Y.
Dr. Alton Ochsner, Prof. Surg., Tulane Univ., New Orleans, La.
Dr. O. H. P. Pepper, Prof. Med., Univ. of Penn., Philadelphia, Pa.
Dr. E. S. Judd, Prof. Surg., Grad. Sch. Med., Univ. of Minn., Rochester, Minn.
Dr. Don C. Sutton, Assoc. Prof. Med., Northwestern Univ., Chicago, Ill.
Dr. L. H. Newburgh, Prof. Int. Med., Univ. of Mich., Ann Arbor, Mich.
Dr. Geo. W. Crile, Cleveland, Ohio.
Dr. Logan Clendening, Clin. Prof. Med., Univ. of Kansas, Kansas City, Mo.
Dr. Harold N. Cole, Assoc. Clin. Prof. Derm. & Syph., Western Reserve Univ., Cleveland, Ohio.
Dr. Walter A. Bastedo, Ass't. Prof. Clin. Med., Columbia Univ., New York, N. Y.
Dr. John A. Kolmer, Prof. Med., Temple Univ., Philadelphia, Pa.
Dr. W. Wayne Babcock, Prof. Surg., Temple Univ., Philadelphia, Pa.
Dr. R. S. Ferguson, New York, N. Y.
Dr. M. Pinson Neal, Prof. Path., Univ. of Missouri, Columbia, Missouri.
Dr. P. C. Jones, Prof. Ped., State Univ. Iowa, Iowa City, Iowa.
Dr. Ralph Pemberton, Prof. Med., Grad. Sch. Med., Univ. of Penn., Philadelphia, Pa.
Dr. Frank H. Lahey, Boston, Mass.
Dr. Warfield T. Longcope, Prof. Med., Johns Hopkins Univ., Baltimore, Md.
Dr. Wilburt C. Davison, Prof. Ped. and Dean of Duke Univ., Durham, N. C.
Dr. J. M. Robb, Assoc. Prof. Ophth., Wayne Univ., Detroit, Mich.
Dr. Pol N. Coryllos, Prof. Clin. Surg., & Assoc. Prof. Surg. Research, Cornell University, New York, N. Y.
Dr. Edw. A. Schumann, Assoc. Prof. Obst., Univ. of Penn., Philadelphia, Pa.

Programs will be mailed February 1st. Write for one if you do not receive yours.

DR. A. F. COOPER, Secretary-Treasurer,
Goodwyn Institute Bldg.,
Memphis, Tenn.

Tribute to Dr. A. G. Payne*

FELIX J. UNDERWOOD, M.D.
October 10, 1934

It is difficult for me to pay tribute to Dr. A. G. Payne. Emotions are bound to color the picture, for Dr. Payne was a man with whom one could be very intimate and to whom one could be emotionally bound. He was a lovable man. His death was a blow to me, and the loss is irreparable.

Dr. Payne's interest in mankind was at all times first. He had a better conception and more appreciation of public health than most busy physicians have. I was away when he died, but just before I left he called me over the telephone—for no urgent

This letter was replete with counsel about ways of getting funds for public health work, and this advice has, as he suggested, been passed on to our full-time health officers. He was always a broad-gauge physician and friend of public health. He had not been asked for information and advice as to how to secure or maintain adequate appropriations for public health work, but he was so interested in seeing an adequate program in all counties continued permanently that he wrote me giving ideas he had on the subject. No better friend ever had man! It was as though he were watching and helping to guide me along. Many are the times I have called on Dr. Payne for advice. His was a balanced judgment, and he had vision.

In personal relationships with his family and



DR. A. G. PAYNE

business, simply for a personal talk. While away, a friend of Dr. Payne's in California sent a personal message to him by me. Then upon my return I found a letter on my desk from him written just a day or two before his death and received by me after his burial.

*Delivered at the October, Semi-Annual Meeting of the Delta Medical Society, Greenville, Miss.

associates, he was kind. His great force was softened yet not weakened by a genuine modesty of spirit. He was just, yet liberal in view, and never domineering. He was helpful to those in trouble, sympathetic, and responsive to affection and allegiance. Dr. Payne's friends were unnumbered, and the nice thing about his friendship was that it was personal. He had a breadth of mind and a depth of heart that made him

an understanding friend.

In sacred memory, I recall a conversation of many years ago with this unselfish, impartial, big-hearted friend of man and of mine, at a time when, I regret to state, I became somewhat skeptical, and in talking with him indicated some degree of skepticism. No minister of the gospel has ever preached a sermon which affected me as did this talk from Dr. Payne on the occasion of one of our State Medical Association meetings. He did most of the talking that night, and I listened with almost reverential awe. His words in effect were these:

"There are those who tremble at the licentious freedom of modern inquiry; and we may indeed deplore that lack of reverence for old faiths and traditions which are the great anchor of popular government. But we may pardon something to the spirit of liberty and need never fear for cause of truth. The licentiousness of modern thought is like a stream which having burst the artificial barriers which long impeded its course pours forth a devastating tide until, having wasted its flood, it sinks again into its channel and, with steady flow and even current, moves onward toward the sea.

"We have not only a life to live, but a soul to save. It is regretted that so many medical men especially the medical embryo before he has time to get his feet on the ground seem to think it evidence of intellectual freedom to question the truths of the Bible, or the existence of a Divine Providence. I dispute no man's freedom of opinion though why any one should be willing to believe

that man has no preeminence above a beast, I do not know.

"There are those who say they do not believe the miracle of the Resurrection. Let me tell you the story of a greater miracle than that. It is the story of a poor peasant of a despised and subject race, himself despised, the very place of His birth despised, even by his own countrymen. With a few ignorant followers he went forth to teach. There was nothing in his gospel attractive to the carnal man. So far as this world was concerned, poverty and self-sacrifice, scorn and contumely, persecution, strife, and death, were all that he offered his followers. He never wrote a line except some forgotten words which he traced with his fingers upon the sand. He scattered his precepts abroad and left them to memories of men. In a little while, He died a felon's death, and all the world about him forget that He had ever lived. Yet somehow his words lived on. Philosophy, with all its wisdom; priestcraft with all its terrors; kings wielding the iron power of all the world, united to resist and to destroy the strange mysterious power which this dead peasant had left behind him in the world. But over armies, over empires, over dying dynasties and crumbling thrones, through rivers of blood and seas of fire, that power swept on and on until it had made conquest of the earth, until every king on every throne bows in adoration to the dead peasant of Galilee, and the very instrument of his felon's death has become the symbol of salvation to all mankind. Do you believe that story? It is to me,

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the story of a greater miracle than that a man died and arose again from the dead. We should not scoff at religion, which is the last hope of the world, whose consolation we shall need in time of affliction and in the hour of death."

I welcome this opportunity to pay tribute to Dr. A. G. Payne's memory—the greatest memory that each of us may hope to cherish throughout the years.

The Mississippi State Hospital Association

LEON S. LIPPINCOTT, M.D., Editor—Vicksburg
KATE LOU LORD, R.N., Associate Editor—Hattiesburg

COST OF SERVICE IN SMALL HOSPITALS

Under the above caption Graham L. Davis of the Hospital Section of The Duke Endowment Fund, Charlotte, N. C., writing in the December number of "Hospital Management," presents some interesting figures in the comparison of hospitals using graduate nursing service and those maintaining student nursing service. While there was a considerable difference in the cost per patient per day under the two types of nursing service in 1930, the cost in 1933 was practically the same. The figures given follow:

Composite Hospital	7 Hos- pitals With Schools		11 Hospitals Without Schools	
	1933	1930	1933	1930
Bed for patients	37	32	29	29
Patients per day	17	12	10	10
Bed occupancy (per cent)	47	36	36	36
In-patients discharged	678	417	428	351
Deaths	35	26	22	23
Death rate (per cent)	5.1	6.3	5.2	6.2
Graduate nurses	3	2	3	3
Student nurses	10	11		
Other workers	8	8	7	7
Total workers	21	21	10	10
Workers per patient per day	1.2	1.8	1.0	1.0
Per cent of days of care free	42	24	57	50
Average stay of patients (days)	9.4	8.6	8.9	10.2
Cost per patient per day	\$3.02	\$4.56	\$3.05	\$3.62

REPORT OF COMMITTEE ON LEGISLATION*

Presented by Dr. H. A. Gamble, Greenville, Chairman

A word of explanation as regards my acting as chairman of the Committee on Legislation, for the unexpired term of Dr. Culley, who resigned on account of personal reasons.

I was appointed to fill the unexpired term on Jan. 21st., and so far as I have been able to learn there were two major subjects under consideration by this committee at that time. The first was a bill introduced into the House by Mr. Vollar of Vicksburg, the substance of which was to give hospitals a first lien on any accident insurance which patients sustaining accidents might have carried. The second was a bill, the subject of which was the appropriation

of funds to the individual counties for hospitalization of their indigent sick, upon a per capita basis.

My appointment as chairman of the Legislative Committee, coming as it did during mid-session of the legislature render ineffective any very active efforts toward securing favorable legislation on the measures introduced.

I found upon investigation that the members of the legislature had not been fully informed as to the merits of the bill introduced by Mr. Vollar, and had taken as a whole an adverse attitude toward it, feeling that the hospitals and physicians were attempting to simply make a bill collector of the legislature. This bill did not pass.

I spent several days in Jackson with reference to the Vollar bill and the one fathered by the State Hospital Association and the Mississippi State Medical Association for the appropriation of funds for each county upon a per capita basis. The major sentiment was at that time apparently very favorably inclined toward the passage of this bill. However, by the time it ran the gauntlet through the House and Senate, it was unrecognizable as the original bill, and ultimately there was doled out a small amount to each of the small hospitals of the state.

It is to be recognized that there is a strong sentiment in the immediate vicinity where the state hospitals are located toward their retention and support by the state. The passage of a bill such as the one under consideration would have eliminated state charity hospitals in toto as such. This in the opinion of many would have meant a more uniform and better surgical and medical service to the indigent sick of the state as a whole than has been accomplished by the state hospitals as at present operated.

I would like to offer a few suggestions as to any legislative program which the State Hospital Association, as an association, might sponsor: first* that the program be well outlined prior to the convening of the legislature, and not be gone into haphazardly; second that a definite campaign toward familiarizing the members of both houses with the merits of the measures proposed be kept up; and third that if practicable when a measure is introduced, to have someone who is friendly disposed toward it exert every effort toward securing its passage. A measure introduced without someone to push it can never make the grade, and any effort expended in its behalf by your representatives will have been entirely wasted.

While the accomplishments of your committee have not measured up to all that one could have

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*Presented at the Fifth Annual Session of the Mississippi State Hospital Association, Natchez May 7, 1934.

wished, it is felt that the ground work has been laid for more effective work in the future. We would especially call your attention to the recommendations made both as to a well outlined legislative program, prior to the convening of the legislature, and the further work incident to familiarizing the members of both bodies with the merits of the legislation desired.

DISCUSSION

DR. W. H. ANDERSON (Booneville): I haven't anything special to say because we depended so much on Dr. Underwood, he being in Jackson and on the ground. But I want to heartily endorse what Dr. Gamble had to say. It is a matter of getting together, deciding on a definite plan, and working ahead of time. There must be some one on the ground at the right time, some one who has convictions, who will not compromise principle, who has a broad view of the subject. We want to work out a definite hospital system. The problem is facing us. Instead of making it a local one as the tendency used to be, it must be nationalized. The charity patient in the future must be taken care of by national, state and municipal aid augmented by church and philanthropy. I feel very much encouraged at the progress that has been made. We did not get as far with the legislature this time as we thought we were going to. But it will take a little time to develop leadership in our ranks. And, too, the key men in the legislature this

time, several of them, were against us, for local reasons perhaps. Seventy-five to eighty percent of the rank and file of the membership of the legislature were a hundred percent for the community hospital. Doing work in the legislature is like buying insurance—you have to buy insurance before you get sick; you have to do your work, a lot of it, ahead of time. As Dr. Gamble has said, we must make definite plans and have men on the ground who are able and persistent in executing them.

On motion, duly seconded, the report was adopted.

REPORT OF COMMITTEE ON INSANE HOSPITAL*

Presented by Dr. H. Lowry Rush, Meridian, Chairman

It is a well known and established fact that every state in the Union is facing the unfortunate condition of an alarming increase in mental diseases among its citizens. Much has been said and written in an effort to curb the ever increasing army of mental cases. Among the more recent suggestions has emerged the establishment of mental hygiene clinics.

The purpose of such a program is, first, in the interest of the **prevention** of insanity similar to the preventive measures in vogue for the infections diseases; secondly, for correctional measures for poor

*Presented at the Fifth Annual Session of the Mississippi State Hospital Association, Natchez, May 7, 1934.

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environmental factors; thirdly, for educational programs to arouse interest in the subject of mental disease and in the various hospitals for the care of such cases; fourthly, for the proper supervision and contact with paroled and dismissed patients from state institutions in an effort to lower the percentage of readmissions to institutions. The responsibility to out-patients is twofold: to secure to the patient continued medical treatment; and to see that he is socially adjusted in respect to home, friends, recreation, employment. These clinics are held at regular intervals at the institutions or in neighborhood centers of population served by the institution. There is a public health aspect to psychiatry, and often times the return of a paroled patient to his home environment is like the return of a cured case of malaria to the malaria swamp whence came the original infection. In short, it is quite necessary for the paroled patient to have intelligent sympathetic and expert after-care.

We submit below a list of the minimum requirements for state hospitals as suggested by the American Psychiatric Association and should like to see its adoption by our state insane hospitals in so far as possible.

(1) The chief executive officer must be a well-qualified physician and experienced psychiatrist whose appointment and removal shall not be controlled by partisan politics.

(2) All other persons at the institution ought to be subordinate to him and subject to removal by him if they fail to discharge their duties properly.

(3) The positions and administration of the institution must be free from control for the purposes of partisan politics.

(4) There must be an adequate medical staff of well qualified physicians: the proportion to total patients to be not less than 1 to 150 in addition to the superintendent, and to the number of patients admitted annually not less than 1 to 40. There must be one or more full time dentists.

(5) There must be a staff of consulting specialists at least in internal medicine, general surgery, organic neurology, diseases of the eye, ear, nose and throat and radiology, employed under such terms as will insure adequate services.

(6) The medical staff must be organized, the services well defined and the clinical work under the direction of a staff leader or clinical director.

(7) Each medical service must be provided with an office and an examining room containing suitable conveniences and equipment for the work to be performed, and with such clerical help specially assigned to the service as may be required for the keeping of the medical and administrative records.

(8) There must be carefully kept clinical histories of all patients, in proper files for ready reference on each service.

(9) Statistical data relating to each patient must be recorded in accordance with the standard system adopted by the Association.

(10) The patients must be classified in accordance with their mental and physical condition, with adequate provision for the special requirements for the study and treatment of the cases in each class, and the hospital must not be so crowded as to prevent adequate classification and treatment.

(11) The classification must include a separate reception and intensive study and treatment department or building, a special unit for acute physical illnesses and surgical conditions, and separate units for the tuberculous, and the infirm and bedfast. Each of these units must be suitably organized and equipped for the requirements of the class of patients under treatment.

(12) The hospital must be provided with a clinical and pathological laboratory, equipped and manned in accordance with the minimum standards recommended by the Committee on Pathological Investigation.

(13) The hospital must be provided with adequate x-ray equipment and employ a well qualified radiologist.

(14) There must be a working medical library and journal file.

(15) The treatment facilities and equipment must include:

- (a) A fully equipped surgical operating room.
- (b) Tubs and other essential equipment for hydrotherapy operated by one or more trained physiotherapists.
- (c) Adequately equipped examination rooms for the specialists in medicine and surgery required by the schedule.
- (d) Provision for occupational therapy and the employment of specially trained instructors.
- (e) Provision for treatment by physical exercises and games and the employment of specially trained instructors.
- (f) Adequate provision for recreation and social entertainment.

(16) Regular staff conferences must be held at least twice a week when the work of the physicians and the examination and treatment of the patients will be carefully reviewed. Minutes of the conference must be kept.

(17) There must be one or more out-patient clinics conducted by the hospital in addition to any on the hospital premises. An adequate force of trained social workers must be employed.

(18) There must be an adequate nursing force. In the proportion of not less than one to eight, and to the patients of intensive treatment and acute sick and surgical units of not less than one to four. Provision must be made for adequate systematic instruction and training of the members of the nursing force.

(19) Mechanical restraint and seclusion, if used

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at all, must be under strict regulations, and a system of control and record by the physicians, and must be limited to most urgent conditions.

It is further suggested that the State Insane Hospitals be encouraged to join the **Mississippi State Hospital Associations**.

THE PRESIDENT: I would suggest instead of asking for the adoption of this report that it be just received and filed, and I would like to have a motion to that effect.

Motion made, duly seconded and carried.

Famous Medical Journal Editor Dies

Dr. Lewis Stephen Pilcher, scholar and editor for half a century of the oldest surgical journal in the United States, the *Annals of Surgery*, died this morning at eighty-nine years of age. Country school teacher, county practitioner, naval surgeon, student of tropical disease, anatomist, professor of surgery, editor, bibliophile, patriot—these nouns indicate a few of his many interests and activities over a long and intensely useful life.

Lewis Stephen Pilcher entered the University of Michigan at the age of thirteen, and took his bachelor's degree at seventeen, the youngest matriculant and the youngest graduate of that great institution. His master's degree was added within a year; and in that same year he entered upon medical study. This was in 1863 when the Civil War was raging. The next year found him with enough medical knowledge to volunteer as a hospital steward and throw himself into the thick of service to the sick and wounded. Then back to the University of Michigan and the doctor's degree in 1866. Many years later, 1900, this same institution conferred upon him the honorary degree Doctor of Laws. Practice began in a rural district of Michigan at the age of twenty; at the same time, to

guarantee a livelihood, teaching in the little school house by the blacksmith shop. He rode his horse across the countryside to the call of the sick, followed the current literature of medicine, and for diversion read the classics in their original Greek and Latin.

The next move was to an internship in a Detroit Hospital. Then a post-graduate course in the hospitals of New York City. And then came the successful examination and appointment as Assistant Surgeon in the United States Navy, in 1867. His marriage, retirement from the Navy, and entrance into private practice, in 1872, all spelled romance and adventure. Then came the years of practice. But Pilcher wanted something more. He organized a dissecting room in his house. This expanded into an adjacent building. A museum and library grew up in connection with it. He dissected also at the Long Island College, and became Adjunct Professor of Anatomy, in 1879, and Surgeon to the Dispensary. In 1885 he was appointed Professor of Surgery at the New York Post Graduate Medical School.

In 1884 he became editor of the *Annals of Surgery*, which position he has occupied to the present day. This publication, beginning in 1884, was acquired in 1897, by J. B. Lippincott Company. The editorial policy and censorship of advertising have never been relinquished by the Editor. If we add to the fifty years of the *Annals of Surgery*, the seven years of the *Annals of Anatomy and Surgery*, and its predecessor which he inspired and dominated, this period of medical editorship establishes him as the dean of medical editors in the United States, if not in the world.

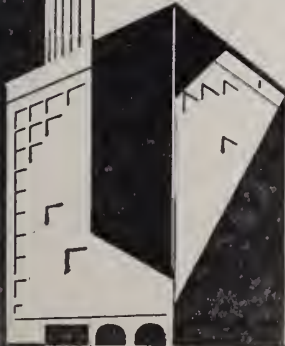
The *Annals of Surgery* will continue to carry on with a 700-page January number under the following Editorial Board:

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Willie was being measured for his first made-to-order suit of clothes. "Do you want the shoulders padded, my little man?" inquired the tailor.

"Naw," said Willie, significantly, "pad the pants."

derbilt University, Nashville, Tenn.

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James Taft Pilcher, B.A., M.D., Managing Editor, New York, N. Y.

Surgeons to Meet in Jacksonville, Florida

The Southeastern Surgical Congress, through its secretary, Dr. B. T. Beasley, announces the sixth annual assembly of the Congress which will be held in Jacksonville, Florida, March 11, 12 and 13, 1935. The Congress has met previously in Atlanta, Birmingham and Nashville.

The states composing the Congress are Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Virginia. A record attendance is anticipated at the Jacksonville meeting. Since March is the most desirable month to visit the land of flowers many surgeons will no doubt combine business and pleasure and attend during this season of the year.

Some of the most distinguished surgeons in the country representing the different surgical specialties have been invited to appear on the program. A partial list of those who have already accepted places is as follows: Doctors Walter C. Alvarez, Perry Bromberg, Hugh Cabot, Willis C. Campbell, George W. Crile, John F. Erdmann, Paul Flothow, Ralph Green, Arthur Hertzler, C. Jeff Miller, Alton Ochsner, J. C. Patterson, J. Knox Simpson, J. W. Snyder and W. A. Weldon. More than twenty others will be listed when the program is completed. Look for the completed program which will be mailed about February 15, 1935.

For information address Dr. B. T. Beasley, Secretary-treasurer, 1019 Doctors Building, Atlanta, Ga.

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Common Errors in the Treatment of Simple Fractures

GUY A. CALDWELL, M.D.
Shreveport, La.

The results of fracture treatment in general remain very discouraging, in spite of improved instruction in medical schools and the more general use of X-ray facilities. Most cases are, and will continue to be, treated by the general practitioner and the general surgeon, and until the rank and file of these have made themselves proficient in the essential details of fracture treatment, the problem will not be solved. While the majority of simple fractures that occur obtain good functional results, the number of serious disabilities which might have been avoided by correct management remains entirely too high. After more than fifteen years of intimate contact with fracture work, both recent and old, and from observations of my own mistakes as well as those of others, I trust I may be permitted to review the commoner errors without seeming presumptuous. In this preliminary, cursory discussion I shall limit myself to the consideration of simple fractures of the extremities and omit compound injuries.

ADULT VS. CHILDREN: Because one has been lucky enough to secure good functional results with fractures of the extremities in children, even when there were obvious inaccuracies of apposition and alignment, he should not expect similar results with the same displacements in adults. In children with growing bones slight shortening will be overcome,

moderate degrees of bowing will straighten and non-union is almost unheard of. In adults, however, whatever bowing or overlapping is apparent after reduction will not only persist, but may grow worse; callus formation is likely to fail entirely unless good apposition is obtained and good immobilization is maintained throughout the early period of treatment.

SPRAINS VS. FRACTURES: Although X-ray facilities are available in nearly every community, many fractures are still overlooked and mistaken for sprains. Fractures and dislocations of the carpal bones, fractures about the wrist and ankle and fractures of the hip in elderly individuals are the ones most frequently misjudged. The presence of ecchymosis or of well defined tenderness over the shaft or extremity of one of the bones should always lead one to seek the aid of the X-ray. Injuries about the hips in individuals over fifty years of age, accompanied by marked difficulty in use of the part, demand X-ray examination.

In the forearm, if a fracture of the ulna with overlapping of the fragments is observed, one can be almost certain that there is a dislocation of the head of the radius associated. Often the X-ray film does not include the elbow joint and the dislocation is not noted until after the fracture has united. By the same rule, a fracture of the tibia with overlapping of fragments necessarily implies a fracture in some portion of the fibula. This is frequently overlooked, however, because it may occur in the upper part above the field included in the X-ray film. Fractures of the calcaneus and tarsal bones may not be observed in the roentgenograms unless several different views are taken at various angles. It is essential to have an

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oblique view made of the calcaneus from above downwards to visualize the lateral displacement that is nearly always present. Dislocations of the shoulder are sometimes accompanied by fracture of the tuberosity and although the diagnosis and reduction of the dislocation may appear simple and one is inclined to omit X-ray examination, it is unwise to do so. Complications following dislocations of the elbow could often be avoided if X-ray examination were made and the associated bony injuries recognized.

PHYSICAL EXAMINATION SHOULD NOT BE OMITTED: While the advent of the X-ray has made it unnecessary to manipulate suspected fractures to elicit crepitus and false motion in order to establish a diagnosis, there is too great a tendency to judge the case entirely by the position of the fragments as shown in the roentgenogram. The treatment and prognosis necessarily vary a great deal, depending upon the extent of injury of the soft parts, the possibility of sloughing and infection and the presence or absence of nerve and blood vessel injuries. All of these can be determined only by taking a careful history and making a painstaking inspection of the injured member.

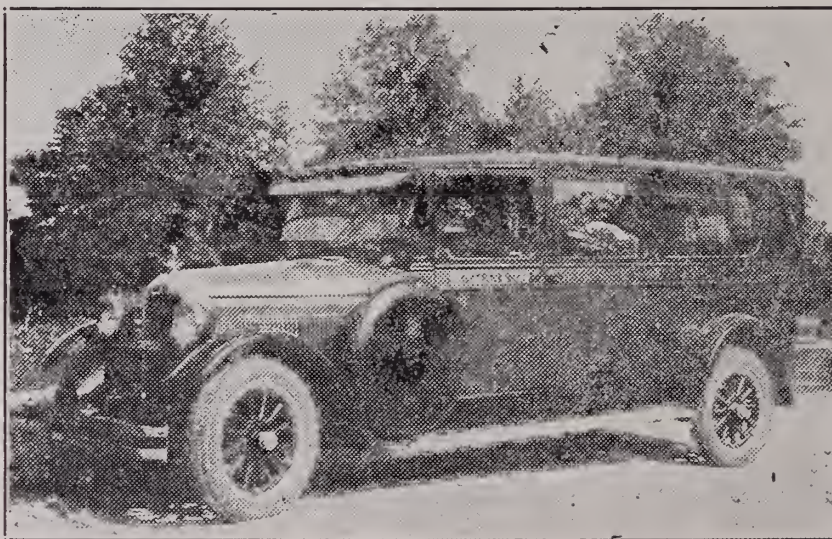
DO NOT "WAIT UNTIL THE SWELLING SUBSIDES": There are very few exceptions to the principle that all fractures should be reduced within the first few hours after they occur. The sooner the reduction is accomplished the smoother will be the convalescence and the better the result. It is a serious,

but frequent error to "wait until the swelling subsides." Too often this is but an excuse for the laziness of the surgeon. Swelling that accompanies fractures results from leakage of blood from the fractured bone ends, from added trauma that follows movement of the unreduced fragments and from the infiltration of white blood cells and edema. Prompt and accurate apposition of the fractured bone ends, followed by careful and complete immobilization, will check the hemorrhage, relax the muscular spasm and thus relieve the pain and swelling. Even when considerable swelling is already present after a delay of several hours, the best way to make it subside is to accomplish reduction, carefully splint the part and then keep it elevated. Occasionally with supracondylar fractures, after the lapse of twelve to eighteen hours, there is intense swelling with blebs on the skin and definite diminution in the volume of the radial pulse. Under such conditions the advisability of manipulative procedure is open to question. Such cases are quite serious and may require an open procedure or relief of tension by incisions through the fascia to prevent loss of the arm or Volkmann's ischemic paralysis.

DO NOT ATTEMPT REDUCTION WITHOUT THE USE OF ANESTHESIA: If displacement of the fragments is present, reduction should not be attempted without anesthesia. Muscular spasm resulting from pain is so great in most cases as to make accurate reduction almost impossible. A solution of novocaine, 2%, can be injected into the hematoma about the

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site of fracture and will give fairly satisfactory relaxation and permit a good reduction. This should always be used when an anesthetist is not available. In my own work, I prefer a general anesthetic when the condition of the patient does not contra-indicate its use.

PLAN THE TECHNIC OF REDUCTION: Too often the physician approaches his fracture case without a definite plan of attack in mind. He pulls and twists first one way and then another until he is tired, then feels of the part and if it seems fairly straight, applies some sort of splint. There is a definite manipulative procedure applicable to practically every type of fracture. The surgeon should study the roentgenogram, make note of the displacement and keep in mind the attachment of surrounding muscles and ligaments and plan his procedure definitely. In nearly every case, it is important, first, to increase the deformity with little or no traction, angulating the fragments until the roughened ends are felt to touch or engage. Traction should then be applied gradually as the alignment is corrected and moderate traction should be maintained throughout the application of the splinting. When dealing with an oblique fracture, provision must be made for continuous traction in the splint if overriding of the fragments is to be prevented. One of the most common mistakes in the reduction of Colles' fracture is failure to unlock the fragments by forcing the lower one backwards as the first step. A frequent error in the reduction of greenstick fractures in children is failure to make the fracture complete. Unless the bones are broken completely (but without tearing through the periosteum and displacing the fragments), bowing will occur, even under a snugly applied splint.

When dealing with a transverse fracture of the long bones, it is relatively easy to know whether reduction has been secured. After the fracture has been manipulated and corrected, traction should be released and the distal fragment pushed against the proximal in the general line of the shaft. If reduction has been accomplished the fragments will not override or angulate to any marked degree, but if poor approximation is obtained, the fragments will be felt to override or displace and another manipulation should then be done.

Great care should be used to support the parts and maintain gentle traction throughout the application of the splint. If plaster is employed, the traction and support obtained from patients with poor results, it is often quite evident that a good reduction was originally accomplished, but the fragments slipped or angulated by reason of not being supported until splinting was applied or because an inadequate splint was selected.

SHORT SPLINTS CAUSE MANY POOR RESULTS: Accurate reduction and complete immobilization of the fragments remain the two absolutely essential steps in fracture treatment. Splinting that is too short or too loose invariably results in displacement of fragments. It must be remembered that in order to immobilize a fracture, it is necessary to stop the motion in the joint above and the one below. When traction is embodied in the splint or applied to the fractured limb in bed, immobilization of the nearest joints is accomplished by the pull on them. It is es-

sential, therefore, that a steady pull be maintained throughout treatment. If adhesive strips are applied to the skin as the means of maintaining traction, the adhesive always slips after a few hours and the slack must be taken up or fresh adhesive applied. The points of pressure where countertraction takes place must be well padded and frequently observed, if one is to prevent pressure sores.

PLASTER VS. METAL SPLINTS: Splints of metal or wood can seldom be made to conform to the injured part as closely or fit as comfortably as well applied plaster bandages. Failure to use well fitted plaster splints of proper length has resulted in more poor results in fracture treatment than almost any other cause. Any physician who expects to care for even the simplest fractures should familiarize himself with the use of plaster. At present, excellent plaster bandages and splinting materials that do not deteriorate even in damp climates are prepared by several surgical supply houses and are available at almost every drug store. There is no reasonable excuse for any surgeon not having them. While bandages can be made of crinoline and plaster powder at somewhat less expense, unless they are freshly and properly prepared, they are unsatisfactory and for the physician who uses plaster only on rare occasions, the prepared bandages that can be purchased are undoubtedly more practical.

Practically all modern textbooks on fractures include a chapter on the use of plaster. This should be studied and, in addition, it is essential for one, before attempting to use plaster, to spend some time in a hospital or clinic where it is being used constantly and observe how it is handled and applied under various conditions. It is just as important to learn the correct application of plaster splints as it to acquire the technic for closure of an abdominal wound. Neither procedure can be learned from textbooks and pictures alone.

NEVER OMIT X-RAY EXAMINATION AFTER REDUCTION: After reduction has been attempted and the splint adjusted, a roentgenogram should be made and carefully reviewed. One cannot afford to permit overriding and obvious disalignment to remain uncorrected, especially in adults. Considerable experience is essential to properly evaluate the information described by the X-ray and determine the prognosis as to union and function. Too often this is left to the judgment of the roentgenologist, who may or may not have had the benefit of follow-up observations on similar cases.

If one decides that the reduction is incomplete and should be corrected, it is best to proceed immediately. The manipulative procedures should never be very forcible and it is better to obtain a complete reduction, even if three or four attempts in succession are required.

DO NOT DISMISS THE CASE IMMEDIATELY AFTER REDUCTION: It is most important to keep in touch with the patient following reduction and the application of a splint during the period when swelling and pain are anticipated. If a circular plaster has been applied, it should always be split throughout its full length before it is entirely dry. As swelling increases, it is then easy to spread the plaster to

accommodate the swelling without displacing the fragments. During the following few days as the swelling subsides, the opening in the splint should be drawn closer and fastened with adhesive bands. Rough edges of plaster can be trimmed away where they chafe the folds of skin and much can be done to add to the comfort of the patient without danger of upsetting the reduced fracture.

SPLINTS CAN BE TOO LONG: Particularly in adults past middle life, it is a mistake to keep the fingers bent in extension on a long board or plaster splint. Even when the fracture involves the wrist joint the splinting can be cut off at the proximal interphalangeal joints, and it should always be made to conform to the hollow of the hand. By following this procedure and by not keeping the parts splinted unnecessarily long, many of the stiff, useless hands that are seen following fair reduction of Colles' fracture could be avoided.

THE PERIOD OF IMMOBILIZATION: There can be no set rule as to the correct length of time to keep a fracture completely immobilized. The period will vary from three weeks to six months, depending upon the site of fracture, the age of the patient, the accuracy of reduction and the amount of soft tissue damage that accompanies the fracture. It is essential for everyone who presumes to accept the responsibility of the care of a fracture to have at his command one or more of the modern textbooks dealing with fractures and to refer to it with reference to the period of immobilization. The time at which splints may be removed and heat and massage employed with benefit is likewise a question of nice judgment and varies greatly in the different types of cases. Here again the practitioner should refer to a competent authority for assistance. The period that should elapse between the removal of splinting from the lower extremities and the beginning of weight-bearing is another question which must be decided with each individual case and depends upon the location of the fracture, the amount of callus production, the density of the callus, the proximity of joints and many other factors.

SUMMARY

Better treatment of simple fractures is necessary and can be had by:

1. Closer examination of the patient.
2. Earlier and more accurate reductions with anesthesia.
3. The use of better splinting materials (plaster).
4. Correct interpretation of post-reduction X-rays with reference to prognosis.
5. Closer attention to the details of splinting, physiotherapy and exercise during convalescence.

The real specialists should be magnified. He is indispensable. Glory and honor to him. We have four times too many in name. The one fourth are real. The development of rural medicine will give them a bigger field of usefulness.

Department of Commerce—Bureau of the Census, Washington

The "Register Your Baby" campaign now being carried on in Mississippi by the Federal Bureau of the Census, the State Board of Health, and the Mississippi Emergency Relief Administration, is a test of birth registration in the State. The same campaign is being waged in other state. It is an intensive effort on the part of the Federal Bureau of the Census to protect American children in their economic and social privileges.

Undoubtedly Mississippi will make an excellent showing as to existing records, as the State has a completely and efficiently organized Bureau of Vital Statistics. For the past 22 years Mississippi has had a law requiring birth registration within ten days, and a majority of the doctors in the State recognize this law, and realize the moral obligation to parents and children, and file birth records promptly, according to Dr. R. N. Whitfield, director of the bureau of vital statistics, State Board of Health.

There are, however, a few doctors who neglect this important duty. They either put it off until they forget it, or delay the report so long that there are errors when it is finally made. This has been proved conclusively in the records of the statistics bureau over the years, as invariably it is in the "delayed" birth records that the greatest number of errors occur.

In the "Register Your Baby" campaign, the Federal Bureau of the Census is sending direct to the parents for information concerning the births of babies born within the past twelve months. All families have received cards mailed them from Washington requesting that they be filled in and mailed back promptly. When these cards are returned to Washington from all over the State, they will be sent to Jackson for checking against the existing records at the State Board of Health. In this way the names of negligent doctors will be revealed.

After all, it is the child's welfare that is prompting the Census Bureau to give parents this opportunity to make sure that their babies are correctly registered. There is hardly a relation in life—social, professional, or economic, that may not at some time necessitate the use of a birth certificate. Proper birth registration is a child's birthright, giving him his "first citizenship papers," proving his American citizenship, and his rights to participate in the privileges given him by Uncle Sam, and his State.

Mississippi doctors should realize the importance of birth registration and recognize their obligation in making reports promptly and accurately. They never know when, nor where, a child in after life may be in need of a birth certificate, nor how much the lack of one may cost him.

The "Register Your Baby" campaign results will be watched with a great deal of interest by those Mississippi doctors who do accept their responsibility and are conscientiously making prompt reports of births.



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Campus of forty acres, with huge forest trees, and springs of pure freestone water flowing about one hundred thousand gallons daily.

Two of our dormitories are conducted on the co-operative plan, whereby the students do much of the housework, thus reducing expenses considerably. We have six splendid brick buildings, three of which have been constructed recently at a cost of nearly a third of a million dollars.

Exceptional faculty of experts trained in the best colleges, universities, and conservatories of America and Europe. Special advantages in piano, pipe organ, violin, voice culture, expression, home economics, art.

No extra tuition charge for courses in commercial subjects or in home economics.

Entrance only by graduation from accredited high school or by examination. We have no preparatory department.

Swimming pool and concrete tennis courts on the campus. College golf course adjoins the campus.

The college maintains one of the best and largest summer sessions in the state.

Write for catalogue and new booklet of campus views.

LAWRENCE T. LOWREY, PRESIDENT

THE NEW FENWICK SANITARIUM

Nervous and Mild Mental Disorders and Drug and Liquor Addictions
COVINGTON, LOUISIANA

OVER FORTY-THREE YEARS OF SUCCESSFUL OPERATION

Doctor, we wish to call your attention to the merits and claims of the above named Institution, especially for Nervous and Mild Mental Disorders—for Drug and Liquor Addictions and Infirmities of Old Age.

This Institution is true to organized medicine and its principles.
It is registered by the American Medical Association.
It is a member of the American Hospital Association.
It is a member of the State Hospital Association.
It is a member of the National Association of Private Psychiatric Hospitals.

The staff of physicians of this Institution are all members or Fellows of the American Medical Association and its subordinate societies. They are physicians, who after having graduated in medicine, have had the best of medical training in the large graduate schools of medicine and hospitals of the East and are especially prepared for their respective specialties. These physicians give their entire time to the patients in the sanitarium doing no outside work.

Its clinical and pathological laboratory is complete and under the supervision of two of the best pathologists in New Orleans.

Correct diagnosis is the key note for the New Fenwick Sanitarium—no half way, and haphazard diagnosis is made here.

The methods of examination are most thorough. Each patient is given a complete Mental, Neurological and Physical examination including all laboratory examinations. Treatment is individual for each according to indications.

The latest and best approved methods of therapy are carried out here at all times.

Hydro-therapy, physio-therapy, electro-therapy and drug-therapy are used as indicated.

The New Fenwick Sanitarium is noted for the individual attention given each patient among pleasant and home-like environments.

This Institution prides itself on the character of nourishment and diet furnished the patients, not only at meal time but otherwise.

For forty-three years it has cared for and brought back to health Mental and Nervous patients, many cases being brought to us from other Institutions.

In the last forty-three years, it has studied and treated many Liquor and Drug Addicts.

The buildings of the New Fenwick Sanitarium are new and constructed especially for the class of patients it treats. They are built of pressed brick, steel and concrete, with every comfort, electric fans, steam heat, etc. All rooms are outside rooms with good ventilation and attractively furnished. The grounds are well kept and inviting with flowers, shrubs, shade trees and rest benches.

This Institution is patronized by the better class of people. Its services are offered to the discriminating physicians for the type of patients named above as a high class Institution in every sense and meaning of the word.

It is located in Covington, Louisiana, a section so noted for its health qualities, and is easily accessible by concrete highways, railroads and water routes. It is only one hour and a half by automobile from the center of New Orleans.

THE MISSISSIPPI DOCTOR

OFFICIAL ORGAN

MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

VOL. 12

BOONEVILLE, MISSISSIPPI, FEBRUARY, 1935

NO. 9



MEN WANTED



DR. P. W. ROWLAND
President Mid-South Post Graduate Medical Assembly

God give us men a time like this demands

Strong minds, great hearts, true faith, and ready hands;

Men whom the lust of lucre does not kill;

Men whom the spoils of office cannot buy;

Men who possess opinions and a will;

Men who have honor; men who will not lie;

Men who can stand before a demagogue

And damn his treacherous flatteries without winking;

Tall men, sun crowned, who live above the fog

In public duty and in private thinking;

For while the rabble with their thumbworn creeds,

Their large professions, and their deeds,

Mingle in selfish strife, lo' Freedom weeps,

Wrong rules the land and waiting justice sleeps.

—Josiah Gilbert Holland.

It would be very hard indeed to find a man who comes nearer measuring up to the ideal of this poet than Dr. P. W. Rowland the scholarly, the cultured, the refined, the honored and the honorable president of the Mid-South Post Graduate Medical Assembly.—Ed.

CONTROLLED Cereal Cookery

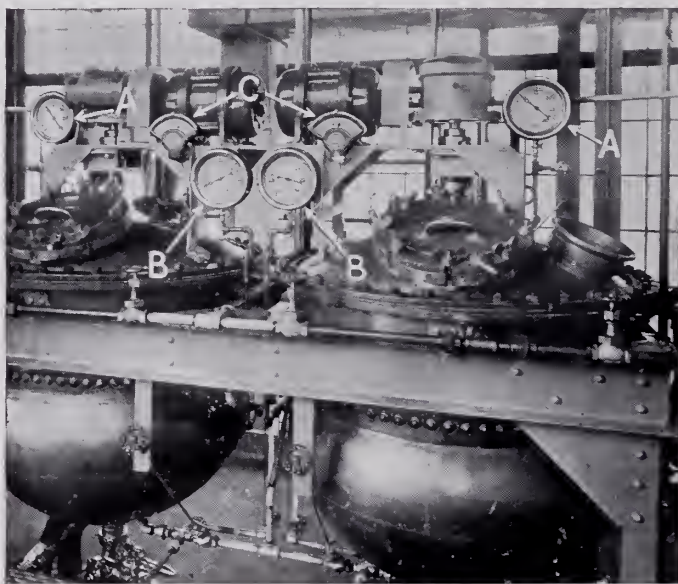
If you instruct ten different mothers, "Cook baby's cereal thus and so," there will be ten different results.

HOME-COOKED cereal is seldom a uniform product . . . because of many uncontrolled factors. The cook, for instance, rarely measures the cereal and the liquid accurately. Nor does she time the cooking carefully. Even if she does, the intensity of the heat varies. Further, the degree of evaporation differs.

Even the type of utensil is a factor. Cooking cereal in a double boiler is likely to cause a surface "skin" to form that is even less digestible than raw starch, Carman *et al* find

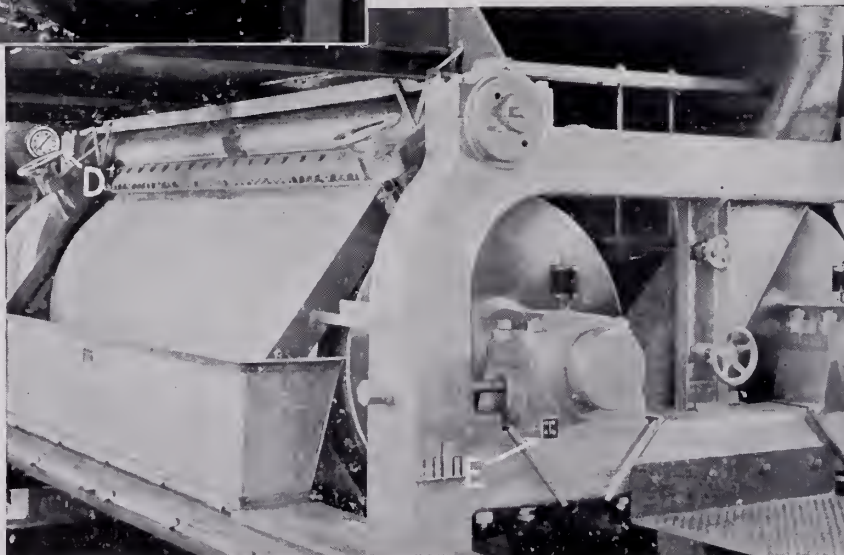
from digestibility studies *in vitro* of breakfast cereals. They also report that single-boiler cooking for more than 15 minutes actually "decreases digestibility because of the formation of lumps produced by too rapid evaporation of water." This clumping is unavoidable without a condenser and with ordinary household utensils.

Pablum*, in contrast, is manufactured by a patented process and precision methods which insure a thoroughly cooked and uniform cereal. This is substantiated by *in vitro* studies of Ross and Burrill, which show that the starch of Pablum without additional cooking is more rapidly digested than that of oatmeal, farina, cornmeal, or whole wheat cooked 4 hours in a double boiler.



Left—Two double-jacket cookers in which Pablum is steam-cooked under rigid control. Live steam of uniform pressure and temperature flows into the cookers and displaces air above the cereal thus preventing oxidation and affording protection to vitamins and flavor. A unique paddle-knife constantly agitates the mixture so that a fresh surface is constantly presented to the steam. Note three gauges used in controlling cooking: (A) gauges maintaining uniform steam pressure in tops of cookers; (B) gauges regulating steam pressure in surrounding jackets; (C) thermometers for control of temperature (control of steam pressure and of temperature are both essential).

Right—One of many drum dryers used in the manufacture of Pablum. After the cereal mixture is steam-cooked it is dropped between revolving steam-heated rollers which roll and dry it in a uniform layer of material. Gauge (D) is used as a check on the steam pressure within the drums. Distance between them is maintained within thousandths of an inch by means of a micrometer plate (E).



*Pablum (Mead's Cereal pre-cooked) is a palatable cereal enriched with vitamin and mineral containing foods, consisting of wheatmeal, oatmeal, wheat embryo, alfalfa leaf, beef bone, brewers' yeast, iron, salt, and sodium chloride. Patent pending.

MEAD JOHNSON & CO.
Evansville, Ind., U.S.A.

Please send professional card when requesting samples of Mead Johnson products to cooperate in preventing their reaching unauthorized persons

THE WALLACE SANITARIUM

MEMPHIS, TENN.

WALTER R. WALLACE, M. D.

HUGH W. PRIDDY, M. D.

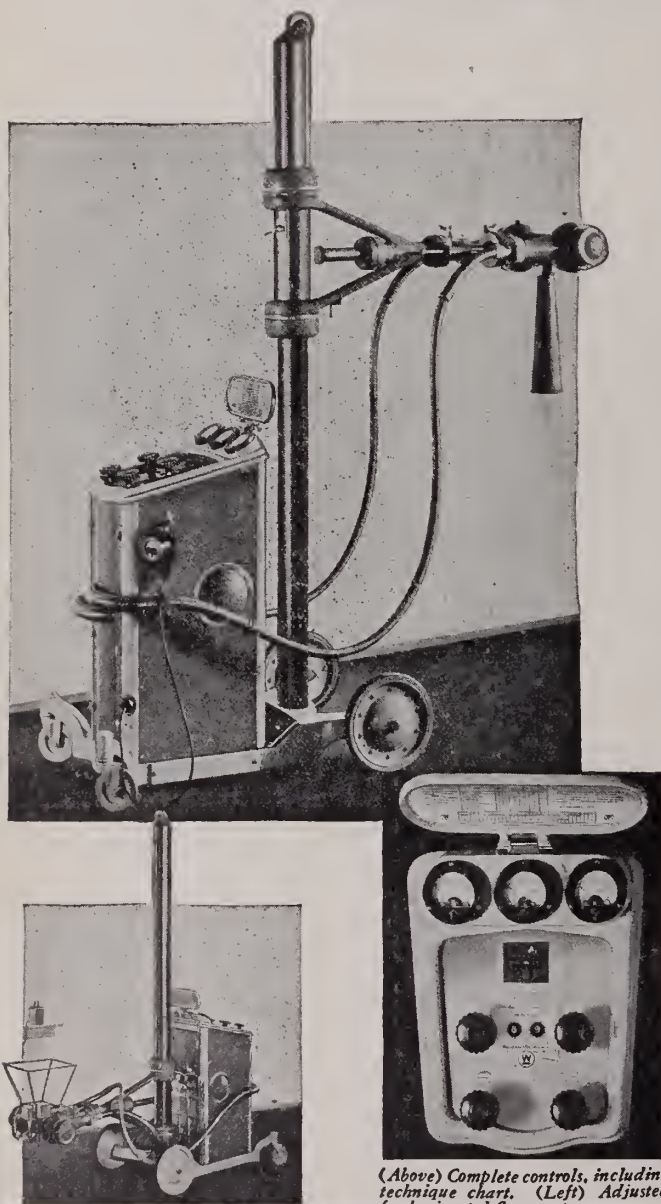


For the treatment of Drug Addiction, Alcoholism,
Mental and Nervous Diseases.

Fully equipped for the care of patients admitted.
Sixteen acres beautiful grounds.

Located in the eastern suburbs of the city at South-
ern Ave., and Cherry Road.

Everything that could be done
has been done to make this
SHOCK-PROOF MOBILE X-RAY UNIT
By Westinghouse the finest
available today



(Above) Complete controls, including technique chart. (Left) Adjusted for horizontal fluoroscopy.

● Completely shock-proof with X-Ray tube immersed in oil.

Capacity 10 Ma. at 89 K.V.C.—this high capacity permitting the use of standard techniques at standard distances, avoiding distortion in films.

Exceptionally fine focus X-Ray tube, which produces radiographs of striking sharpness.

Wide range of tube positioning and angulation, controlled by individual locks and scales. Technique chart mounted on control panel.

60 step auto-transformer with dials reading directly in kilovoltage, in steps of 1 K.V.

Adapted for fluoroscopy vertically and horizontally, either above or below a table. Ideal for fracture reduction. Electrically operated fluoroscopic shutter mechanism an optional accessory.

Folds up compactly for easy mobility.



THE DICK X-RAY COMPANY
Medical Arts Building, Memphis, Tenn.

Please send me complete information regarding the new Shock-Proof Mobile X-Ray Unit.

_____.M.D.

Westinghouse
X-Ray

The Mississippi Doctor

The Journal with a vision, the delivery of modern medicine to the masses at less cost to the individual and more profit to the practitioner. The champion of the small hospital, the hub around which this service must be built.

W. H. ANDERSON, M.D., Editor and Manager
MRS. W. H. ANDERSON, Assistant Editor

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EDITORIAL

The Mid-South Post Graduate Medical Assembly meets at the Peabody Hotel February 12-15, four days. This postgraduate course is planned to cover the field of medicine and surgery by the outstanding authorities of the profession of the United States and Canada. There is no other association just like it in the United States. It is doubtful if you can get as much in four days from any other medical association in North America. It gives you the last word on the subject. There is no time lost. The essayist is the best authority obtainable on the subject. He reads his paper without discussion. At the luncheons you have an opportunity to meet the men personally and to ask any questions you wish, and to offer any ideas you have if you like. It is a happy arrangement. The profession of the Mid-South should be very proud of the opportunities it offers. The meetings are all held in one assembly room. What one hears all hears. The essayists deal with the fundamentals that all need to know. The general practitioner rubs elbows with the superspecialist. They can swap ideas to the great benefit of both. At the Mid-South one comes down and the other comes up to the common meeting ground. This is right. One is as important as the other in this profession of ours. In addition to this feast of medical information the latest and the most dependable the fellowship is fine. The medical profession of Memphis are most cordial. They know how to entertain. They know how to give you the cordial hand of good fellowship. The city is delightful. In it Southern hospitality still abounds. The Peabody Hotel furnishes delightful entertainment. It is outstanding for the South. Memphis has many other fine hotels that treat you most cordially. You can not afford to miss this meeting of the Mid-South. Your clientele can not afford for you to miss it. Read the entire program in this issue of the journal. Meet us there for the four full days.

The editors of The Mississippi Doctor are greatly indebted to Dr. Rudolph Matas of New Orleans for a copy of the little book, *The Soul of The Surgeon*. This was delivered as an oration before the Mississippi State Medical Association at Hattiesburg in 1915 and was printed in book form by Turo Infirmary by permission of Dr. Matas in 1921. It is indeed a masterpiece by the master surgeon of the world, the master doctor of the earth. As a surgeon he is skilled in all the niceties of the art, his surgical knowledge is unsurpassed and his wisdom is profound. He knows surgery in all of its setting and all of its relations. His knowledge of surgery and medicine we believe is the most thorough and the most comprehensive of any living man today. But this is not all. He is a very versatile man. A number of languages he speaks fluently. He knows history and literature and he knows people. His major virtue is his love and his tender consideration for his patient. Neither money nor fame lure him. It is the love of human life, the desire to serve, the passion to relieve and restore health that guide him ever. Every living surgeon should read "The Soul of the Surgeon" by Dr. Rudolph Matas. We hope to arrange to publish this in The Mississippi Doctor on the installment plan.

This question of life, how to live longer and with a bigger volume, is still paramount. Good health is a man's greatest asset. The cost of medical care is now receiving much thought and rightly so. The charity patient and the rich have made it very well, but the big middle class, the backbone of every civilization, is having it hard. This problem of medical care is big enough to challenge the best thought of the medical profession and the laity as well. There must be honesty of thought and purpose on the part of both. Many people now believe that group insurance will be the answer for the middle class, for their hospital bills any way and perhaps, doctor, nurse and medicine. It looks like that with the middle class the one who keeps well in some way will have to be willing to help carry the burden of the one who gets sick. If this principle can be utilized without the personal relation between the doctor and the patient being broken, and without the interference of politics, it would seem plausible. At any rate it is time for earnest thought. It is time to think in sensible terms of our medical problems. Appendicitis for example takes the lives of thousands each year. We are not dealing with all sides of the problem. The laity must be educated. The medical profession must have a touching up on diagnosis. The diagnosis must be made and the patient operated within six hours of the onset. A hospital must be close at hand and the patient must be able to enter on five minutes notice otherwise you break the chain of security. The general practitioner is underpaid. If he is to render the service that is demanded of him he must be better paid. He can not continue to do the amount of charity he has been called upon to do in the past. This is certain and might as well be settled. Just how medical care is to be paid for is not yet certain, but there are some problems about its delivery that we could be getting lined up. For one thing the medical profession must be decentralized. The cities are crowded and the rural communities are wanting. The doctor needs a more liberal and a more practical education. His postgraduate work, much of it, must be delivered to him at home. Eighty-five per cent of the practice should be done by eighty-five per cent of the medical profession. The large hospitals and the large medical centers should be affiliated with the smaller ones so to speak. Dr. Time is the most successful surgeon who has yet operated for acute appendicitis. You had better have a country surgeon operate within six hours of the onset in a five bed hospital than a Mayo in the largest one in the United States three days later, which is now about the average time. The answer is, the small hospital. The medical profession and the rank and file of the people must meet in the town of from one to ten thousand, may be even at the cross roads in some TVA sections. No person should have to travel over forty miles for an operation for a simple appendix, otherwise life is made more hazardous and the cost mounts up. There is much need of closer cooperation between the doctor, the dentist, the nurse and the pharmacist, for the good of both the professions and the laity as well. If a man has only ten dollars it should be used to his best advantage and the four professions—which really make up one—should share in it. The small hospital can be made a medical center where this cooperation can be brought about and where post graduate educa-

tion may be brought to the medical profession. It can be used as a center from which much education for the laity may be disseminated. The charity patient out by the cross roads and down by the old mill should have access to this hospital just the same as one in the city—just as the country boy should have a chance at education. In the rural communities and small towns, the medical service that needs to be rendered is about as big as that now administered. The medical profession would not be so crowded if the work that needs to be done could be provided, if it could be paid for and there were competent doctors to do it. Charity funds should be distributed on a per capita basis and the national, state and municipal governments should each have a part. We are traveling too far with the average sick person. The general practitioner is safer or could be if you pick the young fellow who has a professional mind, a medical soul and a missionary heart to begin with and give him the right kind of education. This plan will be all the better for the real specialist also. Glory and honor to him. We do not want to rob him of any of his importance. We would multiply it. But why not begin solving the cost of medical care as far as we know, and perhaps the solution to the rest of it like the street car door will open when we take our last step.

In this issue of the journal you will read about Dr. Gilbert's portable delivery table. The most neglected branch of practice is obstetrics in the small town and country. Good obstetrics in the rural communities will prevent a multitude of surgery. The very best obstetrical service needs to be carried to the rural community and it needs to be carried to the home, a large part of it. We believe Dr. Gilbert has rendered constructive service in this invention. You will see this portable delivery table demonstrated, exhibited, at the Mid-South.

You will note fine list of books for review. We appreciate these books. Each one of them is the type for you to read and read again, to swallow and digest. If you can just add the list of books reviewed in this issue of The Mississippi Doctor to your medical library this year you will have enriched it greatly. Reading makes a ready man. The medical profession is a live profession, a growing one. No man should try to practice medicine without a few new books each year. We thank the authors and the publishers of these books, each and all.

The Houston Hospital is one of the pioneers in in North Mississippi. It is well equipped. It is well operated. It can care for seventy-five patients. Its staff does fine team work. It has one of the best training schools in the state. When you visit it you are impressed by the order, efficiency and cooperation. Its chief surgeon, Dr. V. B. Philpot, is one of the leaders for the community hospital. He has been a persistent worker for organized medicine. It will do you good any time to visit the Houston Hospital.

Much appreciation is due the exhibitors of the Mid-South. Their funds and their boosting have done much to build it to where it is. Much credit is due Dr. Gilbert J. Levy.

Jane Anderson



Assistant to the editors for the Special Mid-South issue of five thousand copies, fifty-six pages, taking a little frolic in the fourteen inch snow.

We must learn to deal with the problem of appendicitis in all of its phases and not just the individual case if we are to reduce the death rate. What does it profit to diagnose a case of appendicitis within six hours of the onset if the patient is not accessible to a hospital and does not have the ready means to enter?

Dr. Hendon of Louisville, Ky., is a native Mississippian. He lived in Booneville at one time. He is a worthy son. We were delighted to have him at the last meeting of the North East Mississippi 13 County Medical Society. You will be delighted to read his paper on the treatment of ulcer by venoclysis. It sounds mighty good.

Dr. Time is the most successful surgeon who has yet operated for appendicitis. Better have a country surgeon in a small hospital within six hours of the onset of an acute attack as a Mayo in the finest hospital in the world three days later.

Suppose you do diagnose a case of acute appendix within six hours of the onset, what does it profit if no hospital is near by and he has no money with which to enter one? We must deal with the problem of appendicitis.

Complete rest for the human organism and special attention to the sick organ is the big and important thing for every doctor to keep uppermost in his mind and to follow in the treatment of his case.

Blue Mountain College has a high standing in grade. Its president is the most scholarly in the state perhaps. It develops the individual to live successfully.

Last year The Mississippi Doctor published five thousand copies to boost the Mid-South and the same number again this year. It has given liberally of space always. Do you think any other journal would do as much, have they in the past? Judging the future by the past would you like to keep The Mississippi Doctor as the official organ as it is now?

Think of the plastic surgery that should be done, the cripples who need repairs, the hearts that need to be examined, the doubtful lungs, the education that the laity needs to help them to live more efficiently. If all this work were done we would not have too many doctors in the profession.

The community hospital means a small medical center. It means that the general batting average of the profession will be raised. It means better medicine for the masses at less cost to them and with more profit to the general practitioner.

About fifteen to twenty percent of the people in Mississippi die by themselves, die without a doctor, and then the higher ups in the medical profession talk about no one suffering for the want of medical care.

Think of the services and the perineal repairs that need to be done, the hernias, and the tonsils that need to be removed that are just waiting for funds and for the doctor who can do it.

Think of the men and the women who need to have a thorough physical examination. Funds are needed for medical service and doctors who are well trained.

Read the reviews of all the books, buy them and read them. It will do you good like a medicine and it will help the people whose health is your responsibility.

When it comes to contagious and infectious diseases never have today what you can put off until tomorrow.

J. A. Majors Book Company will serve you out of New Orleans or Dallas. It handles the W. B. Saunders books, but can secure any one for you. We appreciate the ad of this company.

The Mid-South Post Graduate Medical Assembly covers the field of medicine and surgery by the outstanding authorities in a four days course.

The day of preventive surgery is upon us and conservative surgery is growing more conservative.

Two hundred and fifty to five hundred cubic centimeters is quite enough blood to give in the average case, and even this amount should be given slowly.

In the field of obstetrics there is plenty of room to practice preventive surgery.

The community hospital, the small hospital, is to the large medical centers what the high school and the junior college is to the university.

An Appreciated Observation

More than one third of a century ago—while I was yet an undergraduate student of medicine—I attended my first medical society meeting. It was a meeting of the old Tri-States Medical Society, held in the old Gayoso Hotel in Memphis. At this meeting I saw in action such men as Dr. T. J. Happel, of Trenton, Tenn., Dr. I. A. McSwain, Dr. B. G. Henning, Dr. W. W. Taylor and Dr. W. B. Rogers. (Please permit me to say that of all medical men I have ever known, none impressed me more nor meant so much to me personally as did Dr. Rogers). At this meeting I, also, saw the venerable Dr. Murry of Ripley, Miss., also Dr. Dunn of Greenville, and last, but not least, I saw Dr. P. W. Rowland. I have not forgotten his dignified and scholarly appearance and bearing. I am happy to say that in the years that have come and gone since then that acquaintance with Dr. Rowland has grown into admiration and genuine friendship. After entering the practice of medicine, I became a regular attendant upon the meetings of this old medical society. At these meetings I met many men who have become my fast friends. I shall not mention any of these that are yet alive. But I will say that Dr. A. G. Payne who died some months ago at Greenville, whom I came to love very dearly, I first met in the meetings of the old Tri-State. After some years of regular attendance the meetings became less interesting to me and I did not go to them so regularly. But some years ago younger men began to make themselves felt in the field of medicine in the mid-south. They had a vision and united their efforts to build upon the foundation that had been laid years before by the founders of the old Tri-State. I, together with many others, caught their vision. Some of these young men wrote to me and asked me to sponsor a move to change the name and scope of this old society, but to preserve the constitution and control of the society. This I willingly consented to do. And it was I who offered the resolution on the floor of the society to change the name of the society to that of The Mid-South Post Graduate Assembly. As I remember, my fine and much loved friend, Dr. P. W. Rowland was the only one to oppose the proposal. His plea was very touching, being based on sentimental grounds. He reminded us that he had been a charter member of the old Tri-State, he having helped to organize it. He stated that he would like to think that it would retain its name and tender memories so long as he should live. As strong as was his plea and as much as the membership loved Dr. Rowland, the proposal was adopted. Now that the change has been made and the scope of the society has been widened, it is a matter of pride to us all that we can claim that we have the best organization of its kind in the entire southland. And I am sure that we are all proud to have Dr. Rowland as our president. And I predict that it will be many decades before we have a more highly respected or a better loved president to represent us. Hats off to Dr. Rowland! And now let me say that it is beyond question that much of the credit for the splendid position that our Assembly now occupies is due to its splendid publication—The Mississippi Doctor. In my opinion, and in the opinion of some of the leaders of medical thought in the South, The Mississippi Doctor is the livest and best

edited medical Journal in all our territory. Its Editor, Dr. W. H. Anderson is peculiarly endowed and fitted for the great work he has undertaken and is doing so well. He is fitted by nature and education for this work and he has unbounded energy. He comes of a family of editors and has had much valuable experience. His Journal is widely read and is highly appreciated. The Mid-South Post Graduate Assembly is very fortunate indeed in having the backing and service of such a splendid journal and editor. These lines, I hope, may prove of some interest to every one who shall be so fortunate as to attend the coming session of the Assembly. I want them to be a personal greeting to all my friends as well as to all others who may be there.

G. S. BRYAN.

Book Review

A Textbook of Surgery by W. W. Babcock, A.M., M.D., LL.D., F.A.C.S., Second Edition, Rewritten.

No doubt many of us are familiar with Babcock's Surgery. It has been a textbook for many a medical student and a help and guide for graduates. But this is introducing a new Babcock's surgery. This Second Edition gives us a complete revision of every chapter. Much of the text has been completely rewritten and a very large amount of new material added. There are 150 new illustrations and new sections on many subjects as for instance the Parathyroid glands, sympathetic nervous system, the duodenum, the mesentery and omentum, the epiphyses, and the malacias of bone. Dr. Babcock has added additional diagnostic tests and laboratory procedures for the common diseases. Newer conceptions of surgical diagnosis and treatment are added as well as a discussion of newer anesthetics. To the chapter on fractures and dislocation has been added the use of local anesthesia for reduction and the use of new apparatus and methods of fixation of fractures. The section on the ductless glands probably gives more new material than any other topic, much is given on the physiology and action of these glands as well as the new theory on surgery of them. There is much new material on neuro-surgery also added as well as on the genito-urinary diseases. In short we have a new book in everything but title and authorship. Dr. Babcock still deals in details rather than in generalities. He stresses diagnosis and treatment, non-surgical as well as surgical. He considers the needs of the general practitioner. All the valuable information given in this new book of surgery is based on Dr. Babcock's long years of both private and hospital experience. It would be hard to find a more valuable book on general surgery than this new Second Edition of Babcock's Textbook of Surgery. Price \$10.00 published by W. B. Saunders Company, Philadelphia, Pa.

DR. SEALE HARRIS

Gastro-intestinal and Nutritional Diseases
Diagnostician
2234 Highland Avenue
Birmingham, Alabama

DOCTOR

You are Cordially Invited to Attend the
51st Annual Convention
of
THE MID-SOUTH POST GRADUATE MEDICAL
ASSEMBLY
at
HOTEL PEABODY, MEMPHIS, TENN.
February 12-13-14-15, 1935

Read this list of those who will deliver addresses and make your hotel
reservations at once.

Dr. Ben Witt Key, New York, N. Y.
Dr. Alton Ochsner, Prof. Surg., Tulane Univ., New Orleans, La.
Dr. O. H. P. Pepper, Prof. Med., Univ. of Penn., Philadelphia, Pa.
Dr. E. S. Judd, Prof. Surg., Grad. Sch. Med., Univ. of Minn., Rochester, Minn.
Dr. Don C. Sutton, Assoc. Prof. Med., Northwestern Univ., Chicago, Ill.
Dr. L. H. Newburgh, Prof. Int. Med., Univ. of Mich., Ann Arbor, Mich.
Dr. Geo. W. Crile, Cleveland, Ohio.
Dr. Logan Clendening, Clin. Prof. Med., Univ. of Kansas, Kansas City, Mo.
Dr. Harold N. Cole, Assoc. Clin. Prof. Derm. & Syph., Western Reserve Univ., Cleveland, Ohio.
Dr. Walter A. Bastedo, Ass't. Prof. Clin. Med., Columbia Univ., New York, N. Y.
Dr. John A. Kolmer, Prof. Med., Temple Univ., Philadelphia, Pa.
Dr. R. S. Ferguson, New York, N. Y.
Dr. M. Pinson Neal, Prof. Path., Univ. of Missouri, Columbia, Missouri.
Dr. P. C. Jones, Prof. Ped., State Univ. Iowa, Iowa City, Iowa.
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Dr. Wilburt C. Davison, Prof. Ped. and Dean of Duke Univ., Durham, N. C.
Dr. J. M. Robb, Assoc. Prof. Ophth., Wayne Univ., Detroit, Mich.
Dr. Pol N. Coryllos, Prof. Clin. Surg., & Assoc. Prof. Surg. Research, Cornell Univ., New York, N. Y.
Dr. Edward A. Schumann, Assoc. Prof. Obst., Univ. of Penn., Philadelphia, Pa.
Programs will be mailed February 1st. Write for one if you do not receive yours.

DR. A. F. COOPER, Secretary-Treasurer,
Goodwyn Institute Bldg.,
Memphis, Tenn.

Dr. Ben Witt Key

New York, N. Y.

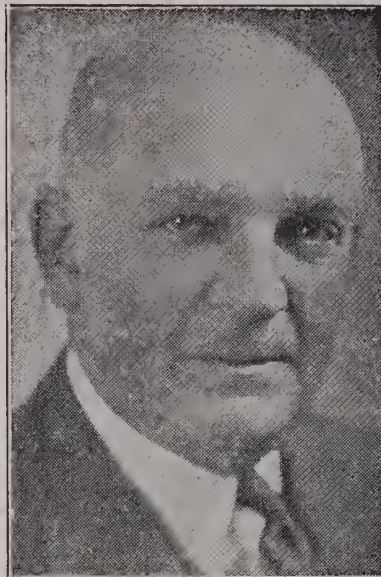


Will be the first speaker on the program. He will lecture Tuesday, February 12 at 10 a. m. on "Ocular Manifestations of General Disease."

Dr. O. H. P. PepperProfessor of Medicine, University of Pennsylvania
Philadelphia, Pa.

Will lecture Tuesday, February 12 at 2 p. m. on "Disease In Old Age."

DRS. DUNCAN & FLEMING
I. G. Duncan, B.S., M.D., F.A.C.S.
J. S. Fleming, M.D.
GENITO-URINARY DISEASES
CYSTOSCOPIC and X-RAY DIAGNOSIS
PROSTATIC RESECTION
Suite 1500-06 Commerce Title Bldg.
Memphis, Tenn.

Dr. E. S. JuddProfessor of Surgery, Graduate School of Medicine,
University of Minnesota
Rochester, Minn.

Will lecture Tuesday, February 12 at 3 p. m. on "Operations for Jaundice due to Disturbance of the Liver and Biliary Ducts."

Dr. Don C. Sutton

Chicago, Ill.



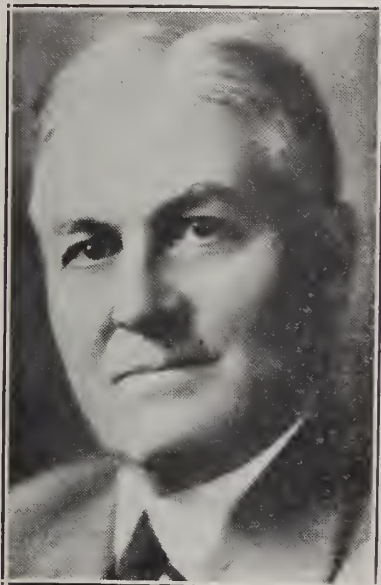
Associate Professor of Medicine at Northwestern University Medical School; Attending Physician Cook County Hospital; Chairman of Division of Medicine; Chief of Cook County Hospital Cardiac Follow-up Clinic. My research publications have been largely upon arteriosclerosis, especially its effects upon the heart, and the experimental study of the mechanism of the production of cardiac pain. I have published one monograph on Diseases of the Coronary Arteries, published by Mosby.

Tuesday, February 12, at 4 p. m. he will lecture

on "Heart Disease Complicated by Pregnancy." Wednesday morning, February 13 at 11 o'clock, Dr. Sutton will lecture on "Arterio-Sclerosis."

Dr. George Crile

Cleveland, Ohio



Internationally known surgeon, will lecture Tuesday, February 12 at 9 p. m. on "Tumors of the Breast."

Dr. L. H. Newburgh

Professor of Internal Medicine, University of Michigan
Ann Arbor, Mich.



Graduate of Harvard and the Harvard Medical School, 1908. Internship at the Massachusetts General Hospital. Some years in the Department of Internal Medicine of the Harvard Medical School and as a member of the staff of the Massachusetts General Hospital. Since 1916, when went to Michigan as Assistant Professor of Internal Medicine. Been working continuously on various nutritional problems. Demonstrated that diets containing excessive amounts of animal tissues will produce chronic

nephritis in the white rat and arteriosclerosis in the rabbit. With assistant evolved explanation of the cause of edema in nephritics. Studied renal functions and devised a test to measure them, studied the metabolic fault in diabetes and employed a diet which will control the disease without insulin in 80 percent of the adult patients. Will lecture Tuesday, February 12 at 8 p. m. on "The Dietary Control of Diabetes Mellitus."

Dr. Harold N. Cole

Associate Clinical Professor Dermatology and Syphilis,
Western Reserve University
Cleveland, Ohio



Head of the Department of Dermatology and Syphilology in the Medical School of Western Reserve University. Degree of Ph.B. from Bucknell University in 1906; M.D. from Western Reserve in 1909.

Member of the Council on Pharmacy and Chemistry of the American Medical Association; a member of the American Board of Dermatology and Syphilology; also a member of the Surgeon General's Public Health Service "Committee on Venereal Diseases."

Belongs to the American Dermatological Association; the American Society for Pharmacology and Experimental Therapeutics; American Radium Society; the German Dermatological Association; and a corresponding member of the Danish Dermatological Association.

Been secretary of the Section on Dermatology and Syphilology of the American Medical Association for three years and president of the Section for a year. Been president of the American Dermatological Association. Will lecture Wednesday, February 13 at 10 a. m. on "Syphilis in Regard to Some Phases of Immunity and Treatment."

GILBERT J. LEVY, M.D.

Practice Limited to Diseases of Children
and Communicable Diseases.
20 S. Dunlap St.
Memphis, Tenn.

Dr. Walter A. Bastedo

Assistant Professor, Clinical Medicine Columbia University
New York, N. Y.



Will lecture Wednesday, February 13 at 2 p. m. on "What the Profession Should Know About the use of Tobacco."

Dr. Logan Clendenning

Clinical Professor of Medicine, University of Kansas
Kansas City, Mo.

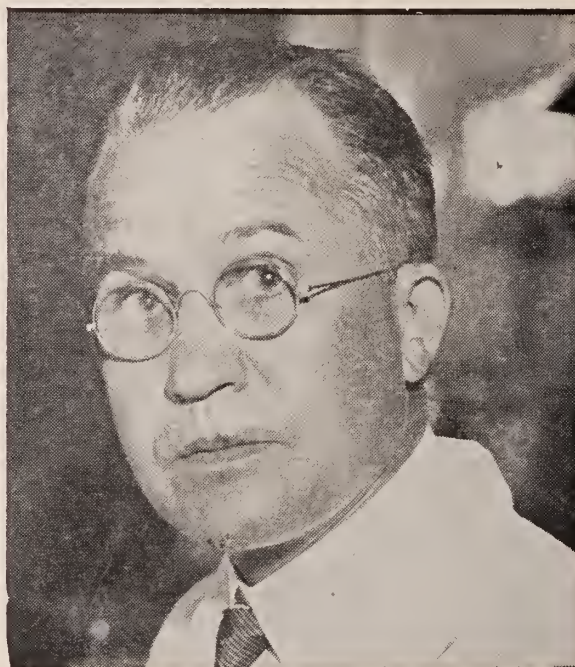


Born in Kansas City, Mo., 1884; graduated from the medical college of the University of Kansas in 1907. Held successive posts on the faculty of the University and now Professor of Clinical Medicine. During the war served as Chief of the Medical Service at Base Hospital, Fort Sam Houston, Texas. Published works include "Methods of Treatment" (a text book on therapeutics); "Behind the Doctor," "The Care and Feeding of Adults," and "The Human Body," treatises intended for the layman, and a laboratory

manual on Physical Diagnosis. Will lecture Wednesday, February 13 at 9 a. m. on "Peptic Ulcers—Some Disputed Points."

Dr. John A. Kolmer

Professor of Medicine, Temple University
Philadelphia, Pa.



Professor of Medicine in Temple University and Director of the Research Institute of Cutaneous Medicine. Formerly Professor of Pathology and Bacteriology in the Graduate School of Medicine of the University of Pennsylvania.

Degrees: M.D., Dr. P.H., D.Sc., LL.D.

Author of Infection, Immunity and Biologic Therapy; Serum Diagnosis by Complement Fixation; Approved Laboratory Technic; Chemotherapy with Special Reference to the Treatment of Syphilis; Acute Infectious Diseases (with Dr. Schamberg).

Most recent work has been the discovery of a method for vaccination against infantile paralysis which is proving both safe and effective.

Will give two lectures: Wednesday, February 13 at 3 p. m., "The Principles of Etiology, Diagnosis and Treatment of Allergy," and Thursday, February 14, 11 a. m., "The Present Status of Biologic Therapy in the Prophylaxis and Treatment of Disease."

WADE CLINIC

Wade Building
Hot Springs National Park, Arkansas

DR. H. KING WADE, Urologist
DR. CHARLES S. MOSS, Surgeon
DR. J. O. BOYDSTONE, Internal Medicine
DR. ALLYN R. POWER, Proctologist
DR. COLEMAN C. BURNS, Eye, Ear, Nose & Throat
DR. RAYMOND C. TURK, Dentist
A. W. SCHEER, X-ray Technician
MISS ETTA WADE, Clinical Pathologist

Dr. W. Wayne Babcock

Professor of Surgery, Temple University
Philadelphia, Pa.



Will give two lectures: Wednesday, February 13, 4 p. m. "Laryngectomy With Especial Reference to Reccnstruction of the Upper Air Passages." Thursday, February 14, 9 p. m., "An Evaluation of the Diagnosis and Operative Methods of Treating Disease of the Biliary System."

Dr. R. S. Ferguson

New York, N. Y.



Will lecture Thursday, February 14 at 9 a. m. on "Diagnosis and Treatment of Genito-Urinary Cancer."

DRS. O. S. McCOWN — O. S. McCOWN, JR.

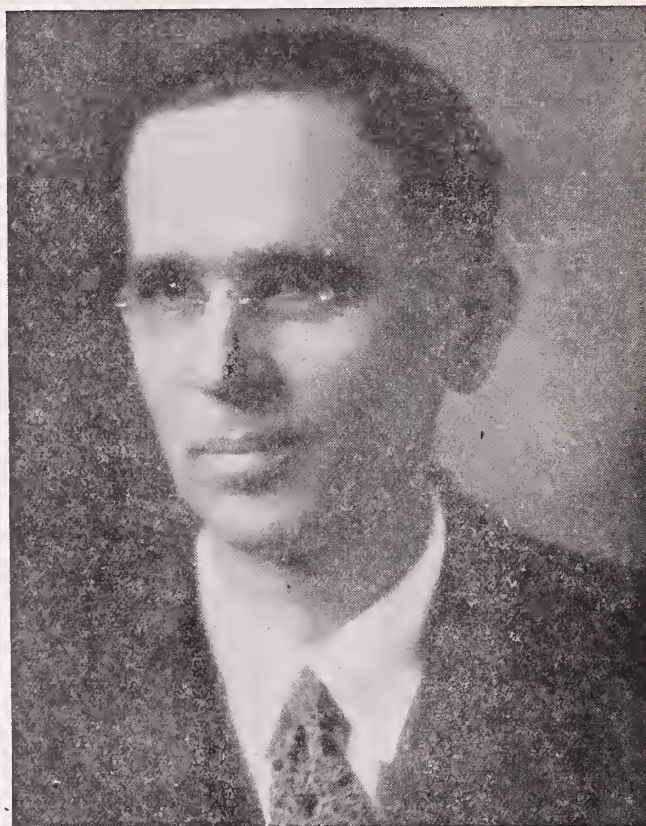
GYNECOLOGY—UROLOGY—SURGERY

899 Madison

• Memphis, Tennessee

Dr. M. Pinson Neal

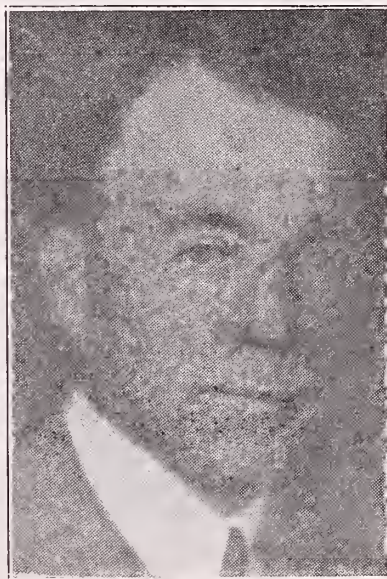
Professor Pathology, University of Missouri
Columbia, Mo.



Will lecture Thursday, February 14 at 10 a. m. on "The Leukocyte Blood Picture as an Index to Infection and Resistance."

Dr. Frank H. Lahey

Boston, Mass.



Director of Surgery in the Lahey Clinic, Surgeon-in-Chief to the New England Baptist Hospital, Surgeon

to the New England Deaconess Hospital, Chairman of the Council of Scientific Assembly of the American Medical Association, member of the American Surgical Association, Fellow of the American College of Surgeons, Fellow of the International Surgical Association. Was Professor of Surgery at Tufts Medical School and then Professor of Clinical Surgery at Harvard Medical School.

Will give two lectures: Thursday, February 14, 4 p. m. "Some of the Newer Developments in Relation to Thyroid and Parathyroid States." Friday, February 15, 3 p. m., "Cancer of the Colon and Rectum."

Dr. Wilburt Davison

Professor of Pediatrics and Dean of Duke University
Durham, N. C.



Born, Grand Rapids, Mich., April 28, 1892; A.B., Princeton, 1913; Rhodes Scholar, 1913-16; Magdalen Coll., Oxford, 1915-17; B.A., Oxford U., England, 1915; B.Sc., 1916, M.A., 1919; M.D., Johns Hopkins U. Medical School, 1917; D.Sc., Wake Forest, 1932; Instr., asso. prof., acting head of dept. of pediatrics, asst. dean Johns Hopkins U. Medical School, 1919-27; asso., pediatrician, acting pediatrician in charge, editor of The Bulletin of Johns Hopkins Hosp., 1919-27; dean and prof. pediatrics, Duke U. School of Medicine since 1927. Served in American Red Cross in France and Serbia, 1914-15, and as 1st lt. and capt. M. C., U. S. A., with A. E. F. 1917-19. Fellow Am. Coll. Physicians and Am. Acad. of Pediatrics; mem. Am. Pediatric Soc., Am. Soc. Clin. Investigation, Am. Board of Pediatrics, Soc. for Pediatric Research. Author: Pediatric Notes, 1925; Enzymes (with S. A. Wakeman), 1926; The Complete Pediatrician, 1934; also articles in med. and scientific journals. Will lecture Friday, February 15 at 9 a. m. on "Pediatric Therapeutics."

CHARLES D. BLASSINGAME, M.D.
414 Physicians and Surgeons Bldg.
Memphis, Tennessee

Oto(ear)-laryngo(throat)-rhin(nose)-ology
Bronchoscopy-Esophagoscopy
Ionization for Hay Fever

Dr. P. C. Jeans

Professor of Pediatrics, State University
Iowa City, Iowa



Will lecture Thursday, February 14 at 2 p. m. on
"Certain Recent Trends and Developments in Child Nutrition."

Dr. Warfield T. Longcope

Professor of Medicine, Johns Hopkins University
Baltimore, Md.



Will lecture Thursday, February 14 at 8 p. m. on
"Some Phases of Streptococcus Infection."

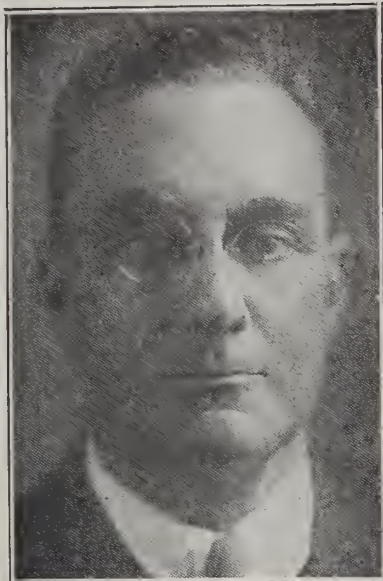
R. W. HALL, M.D.

215-216 Standard Life Bldg.
Jackson, Miss.

Specialty: Dermatology, X-Ray and Radium
Laboratory

Dr. Ralph Pemberton

Professor of Medicine, Graduate School of Medicine,
University of Pennsylvania
Philadelphia, Pa.



Will lecture Thursday, February 14 at 3 p. m. on
"The Modern Conception of Chronic Arthritis and
Treatment of it."

Dr. Pol N. Coryllos

Professor of Clinical Surgery and Associate Professor
Surgical Research, Cornell University
New York



Univ. of Athens (Greece) 1901, A.B.; M.S.; M.D.
Grad. U. of Paris (France) 1914. M.D.; Ph.D.
Associate Gynecologist in the University of Paris.
Major in the French Army (World War) M.R.C.
Surgeon General Greek Army 1919-1922.
Prof. of Surgery U. of Athens (Greece) 1919.
Prof. of Clinical Surgery Cornell Medical College
of the City of New York, 1923-1934.
Associate Prof. of Surgical Research Cornell Med-

ical College 1923-1934.

Director of Thoracic Surgery Seaview and Metro-
politan Hospitals of the City of New York.

Director of Thoracic Surg. Polyclinic Hos. N. Y. C.

Hon. member of the U. S. Military Surgeons.

Hon. Police Surgeon of the City of New York.

Franklin Institute, Philadelphia. Pa. Harvey Soc.

Decorations received during the World War:

France: Cross of the Legion of Honor, Croix de Guerre.

Greece: Cross of Saviour (Commander & Officer).

Roumania: Cross of Queen Marie, Cross for Disting-

uished Services. Decorations from Russia, Serbia and
Montenegro.

Will lecture Friday morning, February 15 at 11
o'clock on "Newer Conceptions of Pathogenesis and
Treatment of Pneumonia (Lobar)."

Dr. Alton Ochsner

Professor of Surgery, Tulane University
New Orleans, La.



B.A., University of South Dakota, 1918.

M.D., Washington University School of Medicine,
St. Louis, Missouri, 1920.

Medical Interne and Assistant Resident under Dr.
George Dock, Barnes Hospital, St. Louis, Mo., 1920-21.

Surgical Interne under Dr. A. J. Ochsner, Augus-
tana Hospital, Chicago, Ill., June 1921 to October, 1922.

Exchange Surgical Assistant under Professor
Clairmont, Kantonsspital, University of Zurich, Zur-
ich, Switzerland, Oct., 1922 to Oct., 1923.

Exchange Surgical Assistant to Professor Schm-
ieden, Staedtisches Krankenhaus, University of Frank-
fort am Main, German, Oct., 1923 to Oct., 1924.

From Jan., 1925 to April, 1926 surgical practice
in Chicago, associated with Dr. D. A. Orth; also in-
structor in Surgery and Surgical Pathology at North-
western University, Chicago, during this period.

From April, 1926 to July, 1927, Assistant Professor,
University of Wisconsin Medical School; Assistant
Surgeon, State of Wisconsin General Hospital, Madi-
son, Wisconsin.

From July, 1927 to the present time Professor of
Surgery, Tulane University School of Medicine, New
Orleans.

Member of the American Surgical Association,
Southern Surgical Association, American College of
Surgeons, American Association for Thoracic Surgery,
American Medical Association, Southern Medical As-
sociation, Society for Experimental Biology and Med-
icine, Louisiana State Medical Society, Orleans Parish

Medical Society.

Member of Editorial Board of: International Surgical Digest; American Journal of Surgery; Surgery, Gynecology, and Obstetrics; Journal of Digestive Diseases and Nutrition.

Author of "Diseases of the Intestine," Nelson's Loose-Leaf Surgery. "Diseases of the Veins," Lewis' System of Surgery.

Lectures at 11 a. m., February 12 on "Acute Cranio-cerebral Injuries."

Dr. J. Milton Robb

Associate Professor Ophthalmology, Wayne University
Wayne University, Detroit



Will lecture Friday, February 15 at 10 a. m. on "The Relation of the Sinuses to Headache and Asthma."

Dr. J. A. Majors

Dallas, Texas



A native of Booneville, Miss. He handles the W.

B. Saunders books, can get you any other you like. He has always been one of the big boosters of the Mid-South. He will give you a hearty hand shake on Feb. 12th, which will make you feel better and do better for the year.

Dr. Edward A. Schumann

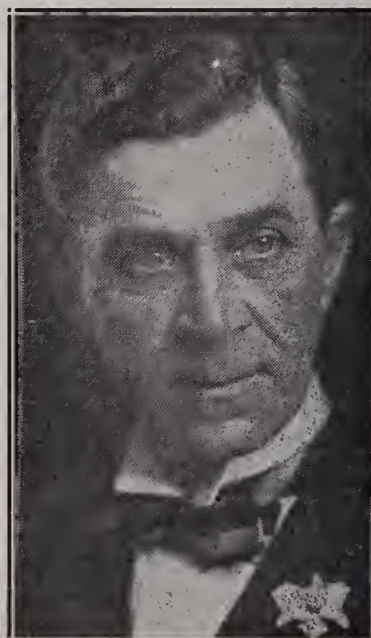
Associate Professor Obstetrics, Univ. of Pennsylvania
Philadelphia, Pa.



Will lecture Friday afternoon, February 15 at 2 o'clock on "The Manual Correction of Abnormal Presentations During Labor."

Dr. R. C. Bunting

Memphis, Tenn.



Chairman of the program committee for the Mid-South. He has been the big shot in building up the Mid-South Post Graduate Medical Assembly to where it is. His services are greatly appreciated.

Dr. Carl R. Crutchfield

Nashville, Tenn.



C

Dr. Carl R. Crutchfield, Nashville, Tenn., M.D., from Vanderbilt University, F.A.C.S.; general surgery and radiology. Interned at Vanderbilt University, spent year in base hospital camp during World War. Been member Haggard Clinic Staff since 1916; Ass't. clinical surgery Vanderbilt School of Medicine, visiting surgeon St. Thomas Hospital, Vanderbilt University Hospital and Nashville General Hospital. Member American College of Surgeons, American Radium Society, University Club, Vanderbilt Varsity Club, Phi Chi Medical Fraternity.

Dr. A. F. Cooper

Memphis, Tenn.



C

The efficient Secretary of the Mid-South Post Graduate Medical Assembly.

Dr. H. King Wade

Hot Springs, Arkansas



X

President-Elect of the Mid-South Post Graduate Medical Assembly. Dr. Wade is a native of Mississippi. He is known throughout the South for his outstanding work in his specialty of Venereal diseases. He is a big booster for the Mid-South. He is cordial and obliging. It does you good to know him.

Dr. V. B. Philpot

Houston, Miss.



C

President of the Mississippi State Hospital Association. Dr. Philpot has done much for organized medicine in Mississippi. He has been a hard worker for the community hospital.

Dr. Clyde M. Speck

New Albany, Miss.



Dr. Clyde M. Speck, of New Albany, Miss., Vice-President of the Mid-South for Mississippi. Dr. Speck has contributed much to organized medicine in Mississippi. He is a steadfast believer in the small hospital, in bringing modern medicine to the masses through it. He organized the New Albany Hospital and Clinic, a Physician and Surgeon U. S. Bureau of Pensions, Washington, D. C., a designated examiner for Veterans Administration. He is a member of many medical societies. He is chairman of Board of Inspectors for State Medical Association, a very important position. He is a Shriner. He is a progressive citizen. He has the following to say about the Mid-South Post Graduate Medical Assembly and The Mississippi Doctor:

I think that it was a very wise thing for the Mid-South Post Graduate Medical Assembly to adopt the Mississippi Doctor as its official organ at its last meeting. Those who read the Mississippi Doctor realize the fact that it is the best Medical Magazine for the ordinary practitioner of Medicine printed in the South. Personally, I get more pleasure out of the printed essays in the Mississippi Doctor than any other Medical magazine. The reason seem to be that the essayists are men of large enough caliber to make their articles as plain as possible, leaving out experimentations and "conflabérations" that are absolutely useless to the general practitioner. This magazine should be adopted by the Mississippi State Medical Association because of its simplicity and usefulness; not only from a Medical Treatise standpoint but for its medical news, its editorials for the commu-

nity hospitals which are the sheet anchor for medical practice for the state of Mississippi. It should be retained as the official organ of the Mid-South.

I believe that the editor-in-chief of the Mississippi Doctor has done more to foster the growth and efficiency of the Community Hospital than any other man in the Tri-States. He has labored day after day, year after year to build up this magazine to its present high standard and in building this magazine he has endeared himself to the communities who realize the importance of the Community Hospital in its relationship to the rich and poor alike of those communities. As for me, I would be glad to see this magazine grow under his leadership to even greater usefulness and broader fields of activities which it so rightly deserves. And I know that its readers share this opinion.

CLYDE MADISON SPECK, M.D.

Book Review

Physical Diagnosis by Richard C. Cabot, M.D.—Eleventh Edition.

Probably no book has been more widely used as a text than Cabot's Physical Diagnosis. For over a quarter of a century it has been very popular both as a text and a reference in the physicians' library. This eleventh edition has been revised and reset throughout. Several new sections have been added and much new material has been inserted in many of the topics of discussion. There is a new written chapter on the electrocardiogram with the most up-to-date material and illustrations. Especially does Dr. Cabot stress the newer points on heart and kidney diseases. The sections dealing with laboratory data as found in the previous editions of this book have been omitted. Thus we have a book about the same size but much more complete in its scope—that of physical diagnosis. Published by William Wood and Co. Price \$5.00.

Walter W. Robinson, M.D.

Crisler Clinic

1291 Union Avenue

Memphis, Tenn.

Specializing in

PATHOLOGY

ROENTGEN

DIAGNOSIS and THERAPY

Treatment of Gastric and Duodenal Ulcer With Venoclysis*

G. A. HENDON, M.D.

Louisville, Ky.

For a long time, gastro-enterostomy was the prevailing surgical remedy for peptic ulcer, while the Sippy plan of management characterized the supreme medical effort. Gastro-enterostomy was credited in it's early history with the possession of advantages which did not materialize. It was first founded on the assumption that it was a drainage operation. That it diverted the magenstrasse through the artificial opening which was made proximal to the ulcerated area, thereby, preventing the irritation and attrition that is inevitable in the course of normal digestion, however, additional experience and very careful observation seemed to establish the fact that the gastric current persisted in seeking the natural outlet instead of the artificial opening, thereby, defeating the object of the operation. It has been found also that in a large percentage (5 plus 15) of cases, that the acid secretions of the stomach going directly into the jejunum has resulted in "marginal ulcers." They are as dangerous, as painful and as disabling as ulceration in the stomach itself. The Sippy plan involves confinement of the patient to bed for lengthy periods and involves long terms of observation during which

the dietary restrictions are extremely irksome and discouraging.

Six years ago in January, I was consulted by a patient upon whom I had done a gastro-enterostomy three years previous for a pyloric ulcer. The patient returned on account of failure to obtain relief and I conceived the idea of bringing about complete and perfect rest for a period that I could extend as far as possible without endangering the patient in any way. Accordingly, the whole procedure was explained and the patient was not hard to convince, as she felt that something must be done to relieve her pain and discomfort. She was, therefore, put upon the Venoclysis treatment for fifteen days. Upon her discharge from the hospital, she was cautioned to eat sparingly and to confine herself to smooth articles of diet. Since that time, which is now six years, she has been comfortable with no gastric disturbances, except occasionally a "sour stomach" which does not interfere with her usual routine.

The result of this case encouraged me to apply the treatment to others and my series now numbers forty-four cases, forty-five treatments, including six treated by colleagues.

Before proceeding with the recital of a few illustrative cases I should like to present a descriptive summary of our routine. After a complete examination including x-ray and gastric analysis, the patient is put to bed and the left arm exposed, prepared and draped as for an operation. Either the Basilic or Cephalic vein is exposed by an incision under local anesthetic, the cannula which I have devised for that purpose is inserted into the vein and attached to the

*Read before the North East Mississippi 13 County Medical Society at Tupelo, Miss., Dec. 18, 1935.

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apparatus especially made for the purpose. The outfit technique and cannula will be shown on the screen rather than described for obvious reasons. The fluid usually used is a 10 percent Glucose in Ringers Solution and is delivered as the rate of fifteen drops per minute. If no reaction in the way of a rise in temperature occurs in the first twelve hours the rate is increased to twenty drops. If at any time reactions do occur as indicated by rise in temperature the flow is either reduced to five or ten drops per minute or discontinued temporarily. In using my apparatus it is not necessary or desirable to restrain the arm by splint or otherwise but an ice bag is kept in contact with the area of incision to control local reactions. The average duration of the patency of one vein is 5-6 days. At which time the vein becomes



Fig. 1. Shows a cannula that is used in the vein.

obliterated and it is necessary to transfer to the other arm or the ankle. Some redness, swelling and local pain always occurs but subsides very soon after the cannula is removed. The patient is not allowed anything by the mouth except water.

An enema is given every other day. Undue pain and restlessness is relieved by $1/32$ of a grain of Dilaudid injected in the delivery tube as necessary. The average time that we continue the treatment is nine days. Limits are prescribed by what we are pleased to call an "Accumulated intolerance." This is evidenced by the appearance of reaction upon the administration of a minimum rate. Even five drops a minute will produce the effect. During the period of treatment the patient is allowed all the water he wishes. No food whatever is given per ore and the patients are absolutely devoid of hunger. When the Venoclysis is discontinued feeding per ore is resumed gradually beginning with broth and other liquids, then milk, cream, cereals, eggs and toast. When the patient is dismissed he is warned against scratchy foods or those containing a large proportion of cellulose. They are encouraged to make mashed potatoes, rice well cooked and ground meat the basis

of their diet and to drink plenty of milk. We do not believe that the acidity of the stomach contributes either to recovery or pathology. For instance we make a practice of checking gastric reactions every few days by passing a Levin tube and withdrawing a small amount of the gastric secretion and merely apply the litmus test. Some cases remain acid and some become alkaline after a few days but there is no difference in the clinical course and subsequent results. In treating marginal ulcers we usually find the acid content very low or the reaction after the test meal is distinctly alkaline. Under the Venoclysis treatment the acidity is increased to near normal and remains so.

In one of our cases of marginal ulcer we had the satisfaction of observing that the gastro-enterostomy opening had closed after the Venoclysis treatment and his ulcer was cured.

We always found in our marginal cases a low acid reaction. I am therefore, convinced that high acid in the presence of ulcer is the evidence of a compensatory effort on the part of nature. For example, to hurry up the gastric function so the bolus of food will move more quickly from the affected area. This tendency is plainly shown in the increased mechanical activity of the stomach that is affected by ulcer. I am further convinced that any treatment that is based upon alkalinity will be futile in its consequences and the relief that occurs is due to the dietary restrictions that are always entailed. The relief of pain that follows the ingestion of soda bicarbonate is so transitory in character as to be of little importance. A few bites of food of almost any kind will do the same thing.

My explanation for the cures that we have accomplished is based upon complete physiological rest of the organ involved without nullifying the good effect of rest by the consequences of starvation. There exists an admissible parallel in Varicose ulcers of the lower leg. These we have all seen heal with remarkable certitude and rapidity when the victim is forced

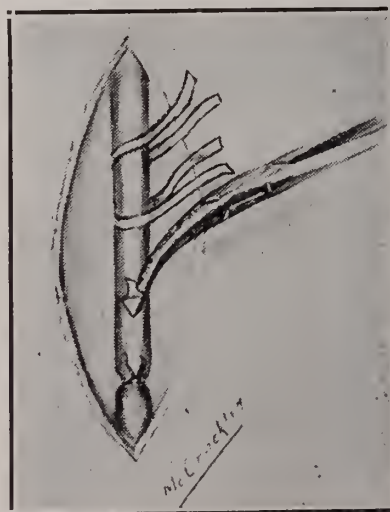


Fig. 2. Shows vein exposed, tied distal to the openings with tapes in place to secure the cannula.

by some lingering disease to stay continuously in bed for a considerable length of time.

I beg to submit a brief detail of our cases group-

a few days by a second. Apparently recovered on Sippy diet. The Venoclysis was continued from December 18, 1932 to December 28. He was discharged from the hospital January 14, 1933. Regained his weight and has been well since.

Case 8. W. E. Age 59. Admitted November 17, 1931. Peptic ulcer and hemorrhage. Ten years ago had hemorrhage and vomited blood, but apparently recovered in three days. Present attack began November 17. Vomited blood twice and was brought to hospital. Vomiting ceased as soon as Venoclysis was begun. Venoclysis continued five days. Discharged from hospital, July 31. Gained forty-pounds and has remained well up to present time.

Case 10. A. Zin. Age 41. Admitted March 29, 1931. Patient has been complaining of stomach for past

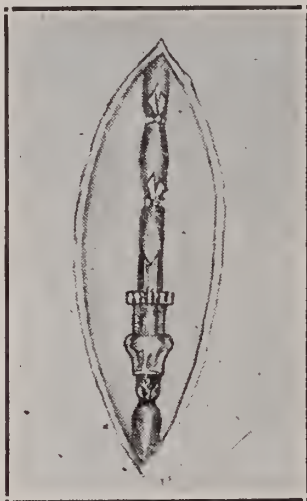


Fig. 3. Shows canula in position in the vein with tapes tied proximal and distal to the shoulder.

ten years. Pains have grown worse and attacks more frequent gradually. Had had copious hemorrhage at irregular intervals for the past four years. More frequent during the past year. Diagnosis peptic ulcer and hemorrhage. Venoclysis attached immediately after admission. March 29, 1933. Blood transfusions given through Venoclysis. Became very restless and delirious and this condition continued until he died, April 4. This man was quiet and composed until blood transfusion was performed.

Case 11. H. H. A. Age 59. Admitted February 22, 1930. Died two hours after admission. Peptic ulcer hemorrhage. Has been having gastric disturbance for two years. Three weeks previous he had a perforation and was treated by Venoclysis. He apparently recovered. On morning of admission he had sudden pain and abdominal distention and shock. Grew rapidly weaker and died.

Case 15. Jesse B. Age 25. Admitted June 11, 1929. Seven hours after admission had copious hemorrhages from bowels and pulse could not be felt. Finally came back. Venoclysis started June 11. Patient made steady improvement and Venoclysis discontinued June 19, 1929. June 20 and 21 pain returned in abdomen and especially the epigastric region. June 22, Venoclysis resumed and continued until June 25. Left hospital June 27 and has remained symptom free to this date.

Case 17. Mrs. M. L. Age 66. Admitted January 4, 1930. Severe gastric hemorrhage. Gastric ulcer. Vomited much blood and some of it clotted. Venoclysis begun January 4. Discontinued January 9. Left hospital January 20. This patient seems to have made a complete recovery. She has not had symptoms referable to stomach or hemorrhage since leaving the hospital.

Case 20. Mr. G. S. Age 27. Admitted to hospital September 21, 1931. Gastric ulcer. Had numerous severe hemorrhages from the stomach. Patient has been getting nauseated and vomiting since May. This has been occurring every day. Had retinal hemorrhage in right eye near disc and one large hemorrhage near macula region in left eye. Venoclysis started October 2 and discontinued October 8. October 14, left arm incised and let out a large amount of purulent drainage. November 17, dismissed from hospital. Up to the present time there has been no evidence of recurrence. Patient seems to be normal in every way.

Case 26. Leo M. Age 30. Admitted June 2, 1934. Discharged June 16, 1934. Diagnosis: Peptic ulcer. Pain in epigastrium. Hematemesis. Onset two days ago with vomiting of blood, severe pains in epigastrium the past year. Appears as soon as he takes food. Eructates. Sour liquids and gas not relieved by soda. Highly seasoned food causes the most pain. Lasts one to two hours. Appetite very good. Had tarry stools the past three months. The past year symptoms have increased in frequency and severity. Was discharged from the Navy because of chronic T. B.

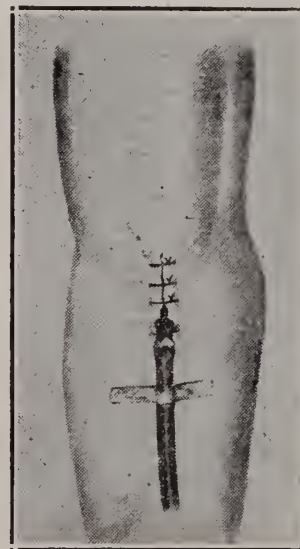


Fig. 4. Shows complete operation.

pleurisy. Uses alcoholic drinks to excess. There was no X-ray evidence of organic lesion, in the stomach or duodenum. Venoclysis started June 3, 1934. Discontinued June 11, 1934. Patient left the hospital June 16. At this time, December, 1934, he is symptom free but has begun drinking to excess again and I predict an early relapse of gastric symptoms.

Case 40. Peter K. Age 48. Admitted February 28, 1929. Discharged March 15, 1929. Diagnosis: Gastric ulcer. He has dull pain in upper abdomen began seven years ago. Occurs one to one and one-half hours after meals. Ingestion of food or soda gives temporary relief. Pain comes on often at night, one and

one-half hours after going to bed. Had five copious hemorrhages from bowels in last four years, the last one occurred one year ago which was very severe. Drinks to excess. Gets on sprees. Venoclysis started March 1, 1929. Discontinued March 7, 1929. This man continued drinking constantly and continued having hemorrhages at intervals and died two years later of pneumonia.

Case 43. Fred S. Louellen, Kentucky. Mine Supt. Treated at Harlan Hospital July, 1934. Referred by Dr. W. M. Martin, Louellen, Kentucky. This patient was taken suddenly ill with a copious hemorrhage. I was called over the phone to attend him at the Harlan hospital. History prior to his sudden illness included slight digestive disturbance when I saw him he was in extremis unconscious. Pulse almost imperceptible. Venoclysis immediately started and was run one week. He has steadily improved since then. Report from him of Nov. 21, 1934 says: "I have regained my normal weight but still find it necessary to be careful of what I eat."

OPERATIONS

Case 21. H. P. K. Admitted June 13, 1933. Diagnosis gastric ulcer. Treatment Venoclysis. Discharged July 1, 1933. Condition on discharge, improved. This patient in 1914 had had a cholecystotomy. No relief. In 1932 had removal of the gall bladder and adhesions broken up and still no relief. Has cramping pains like lead cramps. Pain occurs almost always in spite of what he eats, but worse at night. Has lost seventy pounds. Had attacks diagnosed as lead colic in 1923 and 1926. Diagnosis of gastric ulcer was

made, based on history and x-ray report. Venoclysis established. Allowed to run ten days. Patient improved. Patient gained twelve pounds. June 27 having pain in the abdominal region, again. Began losing weight at the rate of about two pounds a day. July 1, left the hospital. Readmitted on July 7. Complained of constant nausea and cramping in the upper abdomen. Had lost about eighteen pounds since leaving the hospital. Almost complete closure of the pylorus was diagnosed. Patient had been vomiting almost constantly since leaving the hospital. Suffered terrible pain. Constant nausea and cramping. Operation disclosed a healed ulcer on the gastric side. Posterior gastro-enterostomy was done. Blood calcium was made showing a reduction of $7\frac{1}{2}$ mg. Venoclysis started again on July 8. On July 10 he began hiccupping. July 12 was delirious. July 13, appetite fairly good taking water and orange juice. July 13 became nauseated and began vomiting. Constantly nauseated. Emesis at one time 900 cc dark green fluid. Emesis was almost continuous. July 12, vomited black fluid with a very foul odor. Severe pain in the abdomen. Vomited at one time 1800 cc dark brown fluid. Again vomited 1500 cc. At 6 p. m. July 19, was given 30 cc to 1 to 3000 hydrochloric acid intravenously. July 20, had muscular twitching of the hands and arms, jerking of the entire body. Hiccoughing. Given morphine $\frac{1}{4}$ grain but not effective. Twitching of the muscles of the hands and arms. Vomited large amount of yellow fluid. At 4 p. m., July 20, was given 30 cc of HCL intravenously by Dr. Rulander. Venoclysis had been started again on July 2. Calcium glucon-

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ate 60 grains daily. Constant twitching of the muscles of the hands and arms. Very restless. Venoclysis was given at the rate of 60 drops a minute. July 20, very severe twitching of the entire body. July 20, 12:45 the twitching stopped. Morphine given but not effective. Patient delirious. Continual twitching of the muscles of the upper extremity. At 8:30 was unable to count pulse. Tried to get out of bed. July 21, was of fairly good volume but twitching of upper extremity continued. At 11:45 July 21, relaxed and perfectly quiet. Began to perspire freely. Spent a fairly comfortable night. July 23, was still talking loud but was able

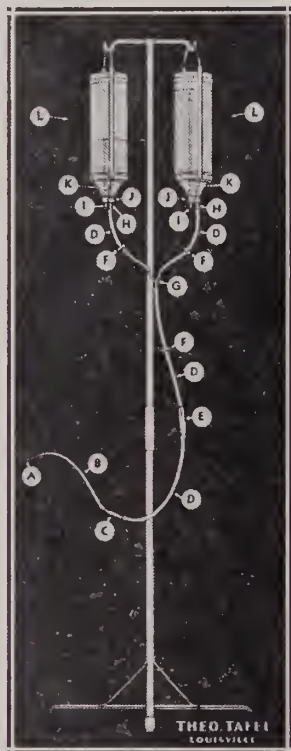


Fig. 5. Shows the assembled apparatus.

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- j. Rubber Wolf Stopper.
- k. Chain across stopper, to prevent accident of stopper coming out.
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August 1, was up and in a wheelchair. Dismissed from the hospital August 16, walking. X-ray by Dr. Fugate states: Pylorus closed by scar tissue. The stomach is of the postoperative type, showing a gastro-enterostomy about three inches proximal to the pylorus. Second confinement in the hospital was from July 8, to August 16, inclusive. During which time he had a gastro-enterostomy for a closed pylorus. Closure due to contraction of healed ulcer area. Was operated July 8 and became nauseated and began vomiting. Probably due to vicious circle. July 20, tetany began and blood calcium was found at 7.5 mg. Venoclysis started with calcium gluconate. July 21, calcium 10 mg. July 22, it was 12 mg. Twenty units of Collip's serum was given twice daily July 20, 21 and 22. After that serum was discontinued but calcium was kept up until July 26. Patient now weighs 196 pounds. Gained 74 pounds.

Case 26. Mr. L. G. Age 36. Admitted January 9, 1934. Perforated ulcer on lesser curvature of the stomach. Onset five days ago when patient had sense of discomfort and pain in epigastrium. Before beginning operation, Venoclysis started Jan. 9, 1934. Venoclysis discontinued Jan. 17, 1934. At operation an ulcer aperture the size of a lead pencil was discovered on the lesser curvature of the stomach and sutured. Convalescence was smooth and recovery complete. No gastric symptoms to date. Gastro-enterostomy was not done.

Case 1. Mrs. W. Age 54. Admitted February 7, 1926. Three years ago patient had severe cramps in abdomen, nausea and occasional vomiting. During the past year the cramps came on more often. Gastric ulcer diagnosed and posterior gastro-enterostomy done. Discharged March 5, 1926. Symptoms relieved. Patient readmitted February 20, 1929. Began with gastric ulcer pains for which she was operated three years ago and got some relief, but symptoms are recurring. Lost weight. No nausea or vomiting. Feb. 21, Venoclysis was begun and discontinued March 9, 1929. Patient discharged from hospital March 16, 1929. Patient has remained well up to the present time with the exception of occasional gaseous eructations. Five years, three months.

Case 12. C. B. Age 42. Merchant. Admitted the first time January 12, 1930. Chief complaint pain in the upper right quadrant. For more than two years has been having pain bearing no relation to food or time of day. No vomiting but much gas. No regurgitation of food. Soda has little effect on the gas and discomfort. Health was good up to two and a half years ago. General appearance—well developed, well nourished, no masses felt. Diagnosis of gastric ulcer was made. Patient put on Venoclysis which he permitted to run only three days. When on account of his uncompromising protest it was to be discontinued. He was discharged on January 23. Symptoms somewhat relieved. Patient was readmitted on July 1, 1930. Symptoms had returned. Patient was operated July 8, 1930. Laparotomy disclosed gastric

to take broth which he retained and enjoyed. Had involuntary stools. July 21, continued to take some food by the stomach. At 9:30 July 26, Venoclysis was discontinued. Complained of being hungry but continued to have involuntary stools. Was very irritable.

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ulcer partially healed. Posterior gastro-enterostomy was performed. Patient left hospital July 2, and has remained well since.

Case 37. Mrs. Cleo M. Age 28. Female, Married. Admitted April 21, 1934. Discharged May 4, 1934. Diagnosis Marginal ulcer. Has pain in stomach, nausea and vomiting. Operated four years ago for peptic ulcer. Condition remained normal until three weeks ago when all her former symptoms returned. She first began to vomit. This lasted a week. Then she began to have pain which occurs when stomach is empty also immediately after eating. If the food remains in her stomach she gets some relief for a few minutes. X-ray conclusion: Gastro-enterostomy functioning well, permitting very rapid emptying of stomach. Some indications suggestive of jejunal ulcer but no definite or satisfactory evidence of such a lesion. Venoclysis started on April 23 and discontinued on May 1, 1934. Left hospital May 4. She returned home and has remained symptom free to date.

Case 33. Clarence L. Age 38. American. Married. Operated for perforated duodenal ulcer two years ago by Dr. Zimmerman. Admitted July 16, 1934. Discharged July 30, 1934. Diagnosis Recurrent duodenal ulcer. Postoperative. Gnawing pain in epigastrium. Two months duration. Begins thirty or forty minutes after eating. Not relieved by food or soda. Fasting gave relief. Little pain the last ten days. Meat and other heavy food seems to increase the pain. Had been diagnosed at another Clinic as Gastric ulcer. Venoclysis started on July 17, 1934. Discontinued July 24, 1934. Patient is now in hospital for what he terms is a nervous breakdown. But is entirely free of digestive

symptoms.

RELAPSE

Case 2. Dr. W. Age 53. Admitted October 26, 1932. Three years previous had a post G. E. for ulcer. Patient was in profound shock and coma. Severe abdominal pain and hemorrhage ushered in the attack on Oct. 24. Bleeding from both his stomach and bowels. Diagnosis bleeding marginal ulcer. Venoclysis was immediately attached Oct. 26. Patient seemed so much improved, Venoclysis was discontinued at end of eighth day. Patient has remained well and has gained thirty-five pounds. On Jan. 24, 1934 patient had a rather severe hemorrhage which ceased spontaneously but confined him to his home about four weeks.

Case 11. H. H. A. Age 59. Admitted February 22, 1930. Peptic ulcer hemorrhage. Has been having gastric disturbance for two years. Four weeks previous he had a perforation and was treated by Venoclysis. He apparently recovered. On morning of admission he had sudden pain and abdominal distension and shock. Grew rapidly weaker and died two hours after admission. Venoclysis was not instituted.

Case 34. Winston H. Age 20. Admitted July 7, 1934. Discharged July 20, 1934. Diagnosis Duodenal ulcer. Pain in stomach and URQ. Onset two and one-half years ago. Pain more severe before meals. Relieved by food but returns in one and one-half hours. Vomits occasionally and has acid eructations. Has lost twenty pounds. Three years ago patient was examined by Dr. Bailey. Patient's X-ray revealed "spots" on lungs. Had night sweats and cough. X-ray July 7, does not show any signs of lesion of lungs past or present.

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Venoclysis started July 8, 1934. Discontinued July 16, 1934. Patient left hospital July 30, 1934. Wt. 117½. Patient returned August 28, for recurrence of symptoms and was again discharged Sept. 8, after Venoclysis treatment. X-ray August 29, 1934, shows duodenum presumably active. The stomach emptied on time in spite of appearance of early obstruction indicating inflammatory change, rather than organic narrowing of sphincter. Venoclysis begun on Aug. 29 and discontinued Sept. 4, 1934. Patient left without permission Sept. 8, 1934. I have not heard from him since. But I have been informed by his Doctor that between treatments he indulged freely in "moonshine" whiskey.

Case 40. Peter K. Age 48. Admitted February 28, 1929. Discharged March 15, 1929. Diagnosis Gastric ulcer. He has dull pain in upper abdomen began 7 years ago. Occurs one to one and one-half hours after meals. Ingestion of food or soda gives temporary relief. Pain comes on often at night, one and one-half hours after going to bed. Had five copious hemorrhages from bowels in last four years, the last one occurred one year ago which was very severe. Drinks to excess. Gets on speers. Venoclysis started March 1, 1929. Discontinued March 7, 1929. This man continued drinking constantly and continued having hemorrhages at intervals and died two years later of pneumonia.

PERFORATIONS

Case 6. W. M. Age 26. Admitted January 9, 1932. Clinical and x-ray shows signs of perforation present. Two years ago he began to have periods of pain in his stomach during which time he would vomit. These attacks were not very severe until forty-eight hours before admission when he was suddenly seized with a sharp pain and fainted. He was too ill to endure the hazards of a laparotomy. Venoclysis attached and improved immediately and continued eight days. Discharged from hospital January 23. All symptoms relieved.

Case 9. C. D. Age 40. Referred by Dr. R. L. McCormack. Acute symptoms occurred one week previous to admission in the form of severe pains in the upper abdomen. On day of admission he had an acute attack of pain throughout the abdomen and especially in the epigastrium. On admission his abdomen was rigid, surface cold pulse 88, temperature 97. He had gone to the doctor's office about noon on the day of admission for an x-ray study which was made. While returning home on the street car he experienced very severe pain in the epigastrium and collapsed on the car. I saw him about 9:15 p. m., with Dr. McCormack. We made a diagnosis of gastric perforation. He refused operation. Venoclysis was attached and in thirty minutes he was comfortable although no morphine had been given him since entering the hospital. Venoclysis was continued eight days when all abdominal symptoms disappeared. Was kept in the hospital on soft, restricted diet for thirteen days. During this time he gained nine pounds. X-ray films on April 3 about two months after his treatment show barium scattered in the peritoneal cavity. On the lesser curvature side of the duodenal bulb near the base is the deep crater of a penetrating ulcer. I think the barium cavity is conclusive proof that he had a perforation on his way home from the doctor's office after the x-ray study was made.

Case 26. Mr. L. G. Age 36. Admitted January 9, 1934. Perforated ulcer on lesser curvature of the stomach. Onset five days ago when patient had sense of discomfort and pain in epigastrium. Venoclysis started January 9, 1934. Discontinued January 17. At operation an ulcer aperture the size of a lead pencil was discovered on the lesser curvature of the stomach. This was closed by suture. Convalescence was smooth and recovery complete. No gastric symptoms to date.

Case 11. H. H. A. Diagnosis: Perforated duodenal ulcer. Age 59. Admitted to Baptist Hospital, January 21, 1930. Too sick for routine physical or x-ray examination. Also too sick for operation. Profound shock and general prostration. Venoclysis begun at once and continued until February 2, 1930. Patient improved rapidly and left the Hospital February 5, apparently convalescent.

In Conclusion we herewith submit a brief Summary as follows:

SITE OF LESION: Duodenal 33. Gastric 11.

SEX: Males 34. Females 10.

AGE: Youngest 15. Oldest 66. Average 38.6.

LENGTH OF TIME SINCE TREATMENT: Longest 6 years. Shortest 3 months. Average 2 years.

WEIGHT GAIN: Lowest 11 lbs. Highest 74 lbs.

TIME TREATMENT CONTINUED: Longest 16 days. Shortest 3 days. Average 9 days.

Mortality 4.

Hemorrhage 12.

Operations 6.

Relapse 4.

Perforations 4.

Book Review

"MODERN TREATMENT OF FRACTURES" by H. Waldo Spiers, A.B., M.D., Professor of Orthopedic and Fracture Surgery College of Medical Evangelists Los Angeles, California.

This little book includes a brief outline of the modern methods of treatment of fractures. Unlike most text books it is not filled with illustrations and demonstrations of a wide variety of operative techniques. In the first chapter, Dr. Spiers points out some of the dangers and pitfalls of fracture surgery and illustrates and discusses in a brief way some of the common "tried and true" methods of treatment. Special attention is given to the emergency care of fractures and their protection before definite medical procedures can be instituted. Aseptic technique in dealing with compound fractures is emphasized and discussed at length. Following the chapter on general fracture problems there is a discussion of all the common fractures and the most effective method of treatment. Generally speaking Dr. Spiers, in writing this little book, gives us a brief but concise discussion of the treatment of fractures. This will be a very valuable book for any one who deals with fractures.

Published by William Wood and Company, Baltimore, Md. Price \$2.00.

Weight Gain in Pregnancy

W. A. RUCH, M.D.
Memphis, Tenn.

Prenatal care of pregnancy cases is being looked upon with more importance every year. Almost every physician today has come to realize that it is essential for the expectant mother to be seen by her doctor often enough throughout pregnancy to enable him to be fully informed as to her condition. A very practical rule for the normal pregnant woman is to visit the doctor every three weeks up to the seventh month, every two weeks from then until the beginning of the ninth month and then every week until delivery. At these visits three things should be done without exception. The blood pressure should be taken, a fresh specimen of urine examined, and the woman's weight observed. Of these three requirements the latter is probably the one most frequently neglected by the average doctor, yet it requires no more equipment than a good pair of office scales and a few seconds of the physician's time.

Why is the weight gain so important? First let us consider it with regard to the size of the baby. It has always been recognized that disproportion of the fetal parts to the dimensions of the mother's pelvic outlet was one of the greatest obstacles to normal delivery. The effort to overcome the difficulties which arise in connection with this condition has steadily continued since the days of Noah, and the question

is still unsettled despite centuries of earnest discussion. A few years ago we heard a great deal about the effect of the mother's diet upon the size of the fetus and it was confidently asserted in many quarters that by reducing the food intake of pregnant women with narrow pelvic outlets, they would have smaller babies who could enter the world by the natural route whereas larger infants could hope for nothing more than high forceps or Cesarean section. Prochownik, a generation ago, even went to far as to outline a diet for the purpose of producing a small child in cases of contracted pelvis, but this has long since been abandoned. It not only failed to cause any notable diminution in the size of babies but the lessening of food intake was so drastic that the woman to whom it was given required constant medical supervision lest their nutrition should be dangerously impaired.

During the war in Europe it was noted that women whose dietary was impaired by war conditions had babies of normal size.

It seems much more likely that the size of the child at the time of delivery is determined by factors quite distinct from diet consideration, and in most instances entirely beyond our control. There is no doubt that inheritance plays a great factor in the size of the child, and that the dominants and recessives of Mendel law must be considered.

The pregnant woman, then, should be warned against the two frequent forms of advice which so constantly emanates from the self-constituted ob-

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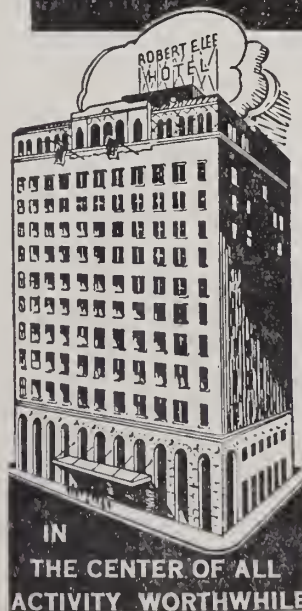
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stetrical authorities of which every neighborhood possesses its quota. These are, first, that she should eat largely because she is eating for two, and second, she should eat sparingly because if she does not her baby will be too large. She should be assured that neither of these dicta has any value. As to the first, one may assure her that if her own appetite is satisfied the baby will obtain all that is needed, indeed that the infant's necessities come before those of the mother, as is the biological rule in all animal creation. Concerning the second statement, she may be told that it is quite impossible to influence the weight of the unborn child except within very narrow limits.

Why then should weight gain be watched? Because one of the primary objects of prenatal care is to preserve the health and well being of the mother. One fact which was definitely noted in Germany during the war was that toxemia and eclampsia appeared less frequently. This was apparent in a number of clinics. The only striking difference in the mode of life of expectant mothers during war time and of the same woman under the conditions of peace was that food was less plentiful and that the women necessarily ate less. Experience of many obstetricians since the war has borne this out.

Zangemeister, in 1916, showed that a record of the patient's weight was of material value in a study of edema. Davis, as a result of personal observation, urged that the routine record of the patient's weight was of comparable importance to that of the blood pressure and the condition of the urine. These writers have pointed out that there are sudden increases in weight as a result of fluid retention before there is any clinical evidence of edema. Davis believes that insult to the kidney first leads to oliguria with fluid retention, then, if not corrected, to albuminuria. Weight records are of greater value in these cases than 24 hour specimens, and more easily obtained. In a number of instances, marked increase in weight has preceded the finding of albumin and an increase in the blood pressure.

A study of average normal women indicates that the weight loss subsequent to delivery and the puerperium is between fifteen and twenty pounds. This being the case, it seems logical to conclude that if a woman's weight was within normal limits before pregnancy her gain should not exceed twenty pounds. If previously underweight, she may be allowed a greater gain, up to as much as thirty pounds. There is evidence that an excessive gain is dangerous. The woman who is fat should be kept on a carefully limited diet and she may actually reduce, to the benefit of herself and the growing fetus.

Pregnancy is usually characterized by a stimulated metabolism and improved health. Some women show evidence of improved metabolism from the first weeks and continue to gain weight, while others, owing to nausea and vomiting, lose considerable weight during the first three months. The woman who has lost considerable weight during the first trimester may be permitted a greater gain during the second and third. For a guide in determining the weight gain for each patient a table of weights, heights and ages prepared by Dr. Thomas D. Wood, Professor of Physical Education at Columbia University, is of inestimable value.

The patient should be asked to control her weight

gain by limiting the amount of food taken. She should be asked to decrease if necessary the amounts of fats, cream, butter and articles of food containing considerable amounts of these. Ice cream should not be forgotten. Many women are surprised to learn that an ice cream soda contains more calories than a liberal slice of roast beef. The practice of many women, particularly those over weight, is to eliminate entirely from their dietary certain articles which they believe to be particularly apt to cause them to gain weight. This should not be permitted. A balanced ration is the normal one for the human organism and it should be continued during pregnancy, bearing in mind that the amount should be controlled, and that fruits, vegetables and milk are the choice articles of diet.

The average pregnant woman should take about 1800 calories and if she cannot control her food intake sufficiently to avoid an excessive increase in weight, she should be furnished a simple caloric list, containing a sufficiently generous selection of foods, together with the caloric content of an average helping of each one.

When we consider that toxemias of pregnancy account for about one-fourth of the total maternal mortality incident to childbirth, and know the important significance of too rapid weight gain, it certainly behooves every practicing physician in this country to, at least, give this minimal amount of prenatal care to each expectant mother who trusts him with her life and that of her unborn child.

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Book Review

Logan Clendening prefers to write for the laity, and no wonder, because he has the peculiar ability of teacher and entertaining stylist too. He couches what he has to say in refreshing, subtle, and sometimes startling, parlance understandable to the bookless and delightful to the rest of us. But now and then he confines his remarks to his own benighted brotherhood, and what have we? His latest is "METHODS OF TREATMENT" in its fifth edition, designed to outline all the methods of treatment in internal medicine—quite the book for the practitioner. If you have been reading after Clendening you know how readable this volume is, how humanly and appreciatively presented. If you are young and shortly out of medical school, you will read gratefully; if you are old in the game, you will feel that you are having a genial chat with him, while he does the talking. He begins with a clear description of drugs, diet, hydrotherapy, etc., followed by their application results to be expected, etc., along with each disease taken up.

You will enjoy this edition, value its contents, and find no more readable book on the subject. Price \$10.00. Published by C. V. Mosby Co., St. Louis, Mo.

WALTER A. RUCH, M.D.

Practice Limited to Obstetrics

Suite 202 Physicians and Surgeons Bldg.

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Memphis, Tenn.

Dr. Ira W. Ellis



This is a likeness of Dr. Ira W. Ellis, of Monette, Ark., Vice-President for this state of the Mid-South Post Graduate Medical Assembly. He is a native of Arkansas. He is a graduate of Castle Heights Military Academy and the University of Tenn. He is one of the most active men in Arkansas in organized medicine. He possesses a magnetic personality and is a very popular leader. He loves the practice of medicine. He is now president of the First Councillor Dis-

trict in his state. He belongs to a number of fraternal orders and he is a progressive citizen. He is a big booster for the Mid-South. He has the following to say about it: "The Mid-South Post Graduate Medical Assembly is not only the best opportunity this section has to meet our old friends and make new ones, but it is the One Great Opportunity we have to receive a real post-graduate course of unsurpassed excellence in concentrated form. I believe if every doctor of the Mid-South could attend one session of this association he would forever after feel, that he must lay aside other things and look forward to attending it regardless of everything else."

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WALTER A. RUCH, M.D.
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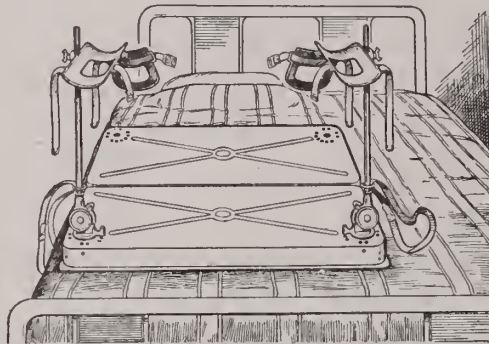
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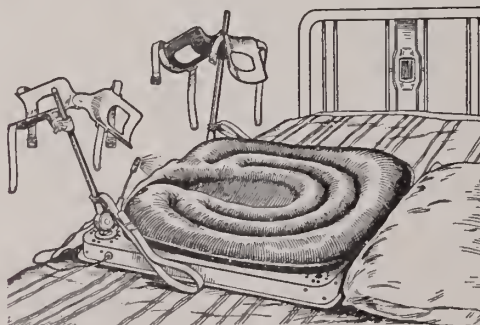
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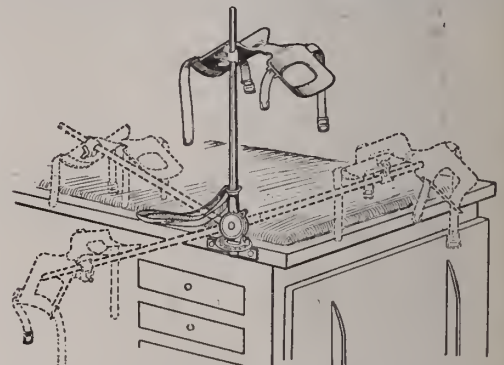


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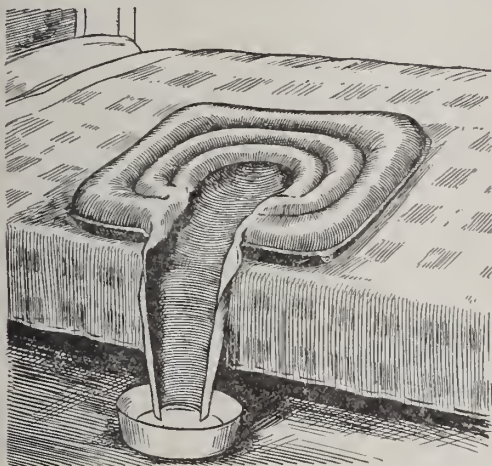
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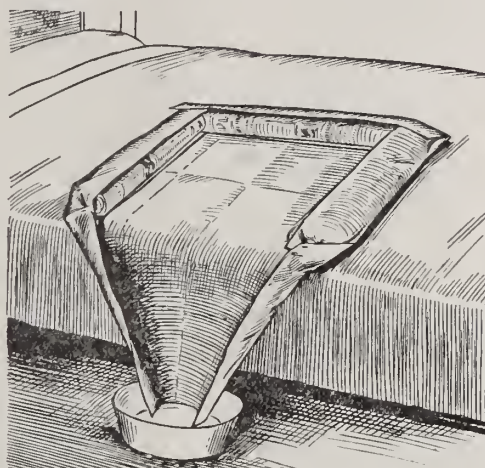
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DR. GILBERT J. LEVY

Here is Gilbert J. Levy with a list of his exhibitors. A big part of the success of the Mid-South is due Dr. Levy. He has been in charge of the exhibits for several years. He has a fine list of them. They have been the power behind the throne for the Mid-South. They have come and exhibited, they have paid for space. This money has been a big help in financing the association. The exhibitors have been big boosters for the Mid-South. They have done a big part in inducing the doctors to attend this association. We should extend a hand of cooperation to Dr. Levy and to each exhibitor. We should deeply appreciate what they have done. The exhibitors are our friends and we should be theirs. We should work together in the same cause.

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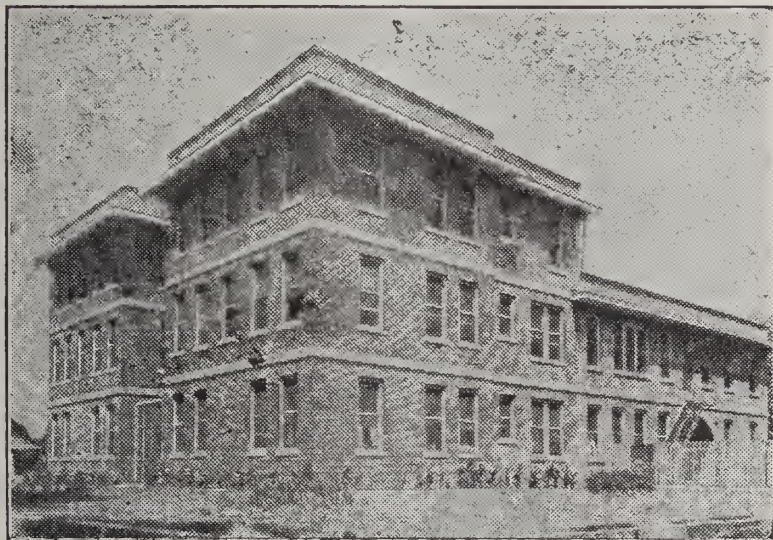
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The Menorrhagias of Nineteen Thirty Three

DEWELL GANN, JR., M.D.
AND
CHARLES C. REED, JR., M.D.
Little Rock, Arkansas

Uterine bleeding and our old friend appendicitis have certainly been receiving their share of the lime-light since I last communicated with you through these pages and today we write with some hesitancy on this subject. Recently, however, we heard one of Arkansas' leading general practitioners make the remark he would like to hear this subject discussed according to the classification of: "Uterine Bleeding": Those cases in which we can find the cause and those cases in which we cannot find the cause. We were working on our cases seen in 1933 at the time and his remarks have remained indelibly impressed upon our minds. Too much is being written about the types of bleeding that need no elucidation and probably too little on the other types.

When unusual bleeding appears from an apparently normal uterus we must think of some functional disorder or blood dyscrasia, the latter easily diagnosed by the blood picture. To understand the functional disorders one must know something of the normal mechanism and since there seems to be some misunderstanding, or lack of understanding regarding the now accepted theory regarding this mechanism we are asking your indulgence for a few moments.

Theoretically all women are born with thirty thousand Graffian follicles. Every woman should mature from twelve to eighteen of these follicles each year after her menstrual life begins. Maturation is followed by ovulation and ovulation by luteinization. Menstruation is the result. These functions are controlled or regulated by the chalones from the anterior pituitary body. Any interference will produce trouble. Ovulation determines the periodicity, luteinization the type of the cycle. During maturation of the follicle the endometrium thickens. The follicular fluid is found in the blood and urine, the maximum accumulation occurring between the twelfth and fifteenth day after the first day of menstruation. At this time the follicle ruptures, the ovum is expelled and the hormone almost entirely disappears. Blood immediately fills the follicle and formation of the corpus luteum begins. The endometrium continues to thicken. In the absence of ovulation luteinization cannot occur and in the absence of luteinization menstruation cannot occur. The first sequence is known as the follicular or non-secretory phase, the second as the luteal or secretory phase. The latter reaches its maximum just before menstruation occurs and on completion of the flow the cycle is repeated, first through a stimulation of maturation of the follicle by the chalone known as Prolan A and second through the regulation of luteinization by the chalone known as Prolan B.

Menorrhagia, the result of an endocrine imbalance may occur at any age but most frequently near the beginning or end of menstrual life and has long attracted our attention. As age advances it becomes more serious but should always be looked upon with

a great deal of gravity. Too many cases are being treated today with expectancy, a most dangerous procedure at any age without first ruling out the most dangerous of all causes of this symptom, CANCER. It is our firm belief no case of menorrhagia should be treated with antuitrin, theelin, radium, x-ray or anything else without first having a very thorough investigation as to its cause.

Menorrhagias have always been perplexing at times but in 1933 to us they became alarming. So many cases applied to us with a hemoglobin so low transfusions were immediately necessary before anything other than packing could be undertaken to determine what was best to do we began this investigation. This paper is based upon this study and is given to you in the hope it may be helpful.

During the year 1933 one hundred and eighteen cases of menorrhagia were treated by ourselves and other members of the staff of St. Vincent's Infirmary. Eight were out-patients and ten were re-entries, for relief of the original complaint. Of the re-entries four had malignancies of the cervix, one was diagnosed as cystic degeneration of the cervix. There were two cases of fibromyomata uterii and three of idiopathic menorrhagia. The total number of cases of menorrhagia for which the cause could not be determined numbered eleven in this series.

The causes of bleeding were listed as follows: Fibromyomata uterii 31 cases. Abortion 23. Chronic cervicitis 14. Carcinoma of the cervix 12. Chronic hypertrophic endometritis 11. Idiopathic menorrhagia 9. Cystic oophoritis 7. Retroversion and chronic metritis 6 each. Endocervicitis and chronic bilateral salpingo-oophoritis 4 each. Menopausal menorrhagia and uterine polypi 3 each. Cervical polyp, pyometritis, subinvolution, endocervical fibroma, salpingo-oophoritis, acute unilateral, salpingo-oophoritis, acute bilateral, salpingo-oophoritis, chronic unilateral, salpingo-oophoritis, subacute unilateral, salpingo-oophoritis, subacute bilateral and postpartum hemorrhage with septicemia 1 each. In several cases there was more than one causative factor.

This group of cases is composed largely of young women. The oldest case in the series was 58, the youngest only fourteen, with an average of 35. There were 32 cases below 30 years of age, 5 below 20 and 31 above 44. Of the 31 nine were 50 years of age or more. In this group 7 women were single, the remainder married. The average marital state was 19½ years, the longest 43 years and the shortest 8 weeks. 82 of these women had one or more children, 25 had from 1 to 7 miscarriages or abortions and there was one stillborn. The largest family was composed of 13 children. Most women had given birth to only one child. Fifteen cases had had one abortion, four had 2, two 3, two 4, one 7, one several and one a still-born child.

The duration of symptoms in this series is of very long standing, so long in fact many might question

FRANK W. SMYTHE, M.D.

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And Radium Therapy
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the truth of the figures stated herein. The longest duration extended over a period of ten years. This was a case of idiopathic menorrhagia. The shortest period was 24 hours with an average for the series of 41 weeks. Astounding but true. Imagine a patient going over a year or being permitted to go a year without hospitalization in such an important condition.

The laboratory findings should have been more complete in these cases. Only 60 cases had a hemoglobin determination. The highest was 76.3%, the lowest could not be estimated, 24 were below 50 per cent and the average was 52.1 per cent. We are satisfied some cases seen by us had a hemoglobin so low that treatment of any kind could not give relief without resorting to blood transfusions. Red cell counts were done in 64 cases. The highest was 5,750,000, the lowest 1,125,000, the average 2,928,125. A total white and differential cell count was done in all cases. This is routine in this hospital. Other blood work must be ordered. Two Wassermann reactions were done. Both were negative. This possibly should be done often. A gumma of the cervix is not unlike a malignancy and should be kept in mind. A urinalysis was obtained in each case but showed nothing unusual. Many cases showed some albuminuria and red blood cells in a voided specimen.

Sixty three cases gave a history of normal menstrual periods prior to the time bleeding began, 31 a history of irregularity and in 16 the menstrual history was not recorded. Thirty six had a profuse flow 38 moderate and 6 scant. In the remainder the data was not recorded. Dysmenorrhoea occurred in 44

cases and leukorrhoea was a prominent symptom in 37 cases. This leaves only 13 in a group of 94 patients, whose menstrual history was obtainable, free from either of these two distressing symptoms.

The age at which menstruation began in this series varies little from present knowledge. The oldest began at 18 years, the youngest at 11 with an average of 13.4 years. This data was not recorded in five cases of this series. The intervals between periods varied from twenty one to eighty four days. The longest duration of the menstrual period was 12 days and the shortest two days.

The highest temperature on admission was 101.2, the lowest 96.4, the average 98.2. The highest pulse rate was 120, the lowest 60, the average 104. The highest respiratory rate on admission was 32, the lowest 16, the average 22.

The longest stay in hospital was 62 days, the shortest 19 hours, the average 9 days. On discharge 23 were listed as cured, 79 as improved, 5 as unimproved and one died. This was a case of carcinoma of the cervix. One case refused operation and two left without permission or stating their reasons for so doing.

In the outpatient group there were four cases in which the cause of bleeding was not determined, three had fibromyomata and one menopausal menorrhagia. These were treated in the x-ray department. In these cases a cure was apparently established since none have returned for further treatment. Treatment in other cases was varied.

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Arkansas' Pioneer Hospital

BY LUCY MARION REAVES

Earliest history of man records an effort to alleviate pain and suffering, to prolong life. Modern medicine, a product of the Greek intellect as all else good and lasting in the world, and hospitals, homes for the reception and treatment of the sick, are outgrowths of those early efforts.

It is right that hospitals be founded and operated on fundamentals true to the profession of medicine. In an address, "Chauvinism in Medicine," made before the Canadian Medical Association in Montreal, 1902, the master Osler named four great features of the guild, which in a measure might well be interpreted in the light of rudiments of a good hospital: noble ancestry, remarkable solidarity, progressive character, singular beneficence.

The story of St. Vincent's Infirmary of Little Rock, Arkansas, is that of the oldest hospital in ex-

istence in the state. This "Pioneer Home for the Sick" was founded May, 1888, under the leadership of Bishop Fitzgerald. The former home of Alexander George at the foot of Second street was its first location. Mother Cleophas of Nazareth, Kentucky, sent five sisters to assume charge of the little hospital of only 26 beds. In 1898 the Choctaw, Oklahoma and Gulf railroad purchased this property, which necessitated moving the hospital to the west side of Center street, between Second and Third streets. Public spirited citizens, Mr. and Mrs. Alexander Hager, seeing the need of larger hospital facilities due to the yellow fever epidemic in the South in 1878, gave \$20,000 to the Catholic church to build St. Vincent's Infirmary. In 1909 the present plant, located at 100 High street,

was completed at a cost of \$60,000. It is conducted by the Sisters of Charity of Nazareth and is owned by the Catholic Diocese of Little Rock, of which the Most Rev. John Baptist Morris, D.D., is Bishop. St. Vincent's Infirmary has endeavored always to maintain high standards of efficiency and to keep pace with the demands and strides of science. The year 1934 has marked a new epoch in the history of the infirmary with an improvement program on foot and departments have been reconstructed and new equipment installed. The Administration Section including the Admission, Bookkeeping and Collections Departments, is headed by Sister Michaela. The hospital depends, as it has for over 46 years, solely upon its daily receipts, having no endowment and no income from the church, city, county or state. All floor supervision, day and night, is under the direction of



MAIN HALL ST. VINCENT'S INFIRMARY—LITTLE ROCK, ARKANSAS

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competent Sister graduate nurses. The record room houses a complete history of every patient admitted to the hospital since 1920. Clinical laboratories where findings often establish the diagnosis, direct the treatment and form a basis for a prognosis; X-ray rooms, a pharmacy, a Central Supply Section proven an economizer of time, labor and equipment; new main kitchen and diet kitchen with semi-direct lighting and new equipment of non-tarnishable metal; and tea room for doctors, nurses and visitors are features of the institution. The Surgery Department suite is composed of four rooms, three of which are devoted to major surgery, and the fourth to the Department of Eye, Ear, Nose and Throat. Two other rooms are given to specialties, one to the Department of Urology

and the other to Orthopedics. Of the 3,489 patients admitted last year, 2,223 were on the surgical service, 489 of this number being accident cases which were given first aid treatment. The hospital has become more popular for the care of purely medical cases with 744 patients during the past year admitted exclusively for medical treatment. Since the Obstetrical Department was opened in 1921 the records show over 4000 babies to its credit.

St. Vincent's School of Nursing, the first in Arkansas, was organized in 1906 and to date has given 399 graduates to the nursing profession. The student body is composed of 60 members. The course outlined by the League of Nursing Education is followed in theory and practice under the direction of a Superintendent of Nurses, who is a Sister graduate nurse, and an assistant, who is a lay graduate nurse. A modern nurse's home is on the hospital grounds. In 1925, St. Vincent's Infirmary was approved by the American Medical Association as a teaching hospital for internes. The Interne Staff includes four doctors and the one year rotating service is divided into surgery, clinic, obstetrics, X-ray, medicine and laboratory. "The hospital is the only proper college in which to rear a true disciple of Aesculapius."

Catholic and non-Catholic women have formed the St. Vincent's Aid Society and they sew each week and give of their time and money with all their efforts directed only to charity beds of the hospital. The number of charity cases looms large and during the past several years there has been a great work done for transients and unemployables.

St. Vincent's was the first hospital in Arkansas

to merit the Full Approval rating of the American College of Surgeons. It was the first hospital of the state to be recognized as a teaching hospital. The institution is a member of the American Medical Association, the American Hospital Association and the Catholic Hospital Association of the United States and Canada. It is a 150 bed hospital.

The staff is in three divisions: regular, honorary and general. The regular staff constitutes Dr. M. J. Kilbury, Chief of Staff, who is assisted by Dr. R. J. Calcote, secretary; Consultants, Dr. Robert Caldwell, Dr. A. C. Shipp and Dr. J. R. Dibrell; and these chiefs of various departments: Surgery, Dr. Dewell Gann, Jr.; Eye, Dr. Calcote; Ear, Nose and Throat, Dr. P. L. Mahoney; Orthopedics, Dr. F. Walter Carruthers; Proctology, Dr. H. R. Allen; Urology, Dr. H. Fay H. Jones; Dentistry, Dr. E. J. Mahoney; Medicine, Dr. Dibrell; Diagnostic, Dr. N. F. Weny; General, Dr. C. C. Reed, Sr.; Dermatology, Dr. G. F. Jackson; Neurology, Dr. Pat Murphey; Pediatrics, Dr. A. C. Kirby; Obstetrics, Dr. S. B. Hinkle; Roentgenology, Dr. O. A. Rhinehart. The honorary staff, embracing those men who have given good service in the past and whom the hospital wishes to honor with its dignities without imposing the obligation of required attendance, includes Dr. W. H. Miller, Dr. Morgan Smith, Dr. Frank Vinsonhaler and Dr. Anderson Watkins. General staff members are those elected to membership by vote of the regular staff with privilege to practice in the hospital. Staff meetings have been held every month for the past 15 years at the hospital.

Arkansas' pioneer hospital can define its ancestry, has maintained a oneness of purpose, is progres-

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sive in character and abundantly lends her talents to charity. The hospital exists for the patient. Each department functions as an important unit with the efficiency of each working toward harmonious interrelations and blending into a successful working of the whole. A new St. Vincent's has grown out of the old but the heart of the institution is unchanged—the same spirit of Christian charity and concern for the welfare of the sick that has prevailed through the years is there.

Book Review

Perhaps the most replete book available in one volume on dermatology is the new edition of "Diseases of the Skin," by Richard L. Sutton and Richard L. Sutton, Jr., who occupy the chairs of Professor of Dermatology and Assistant Professor of Dermatology at the University of Kansas. The authors of this book have given many years of study and work on the subject, and include the views of other eminent dermatologists as well. It contains up-to-date and concise material for use by the general practitioner, presented simply and clearly. A decided advantage of the book is its continuous and profuse use of photographic illustrations. Many of these come from other specialists in this field and each disease is excellently represented photographically.

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Practice limited to Diseases of the Eye
899 Madison Avenue
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Memphis, Tennessee

Conservation of the Abdominal Wall By Proper and Adequate Incisions*

R. L. SANDERS, M.D.
Memphis, Tenn.

One of the important problems confronting the abdominal surgeon is that of gaining access to deep seated lesions in such a manner that the patient may suffer the least possible postoperative anatomic and physiologic damage. The surgeon's chief aim is to save or prolong life and to cure disease. But, if in an effort to accomplish that aim, the patient is left with an equal or even more disabling condition than was produced by the original disease, then the surgical treatment was ill advised or improperly managed and the cause of surgery must suffer and the aim defeated. Such a general rule will apply more especially to elective abdominal surgery.

During the professional life time of most of us, the abdominal cavity has been surgically invaded many times. Prior to fifty years ago the practice was not so common, however, and we therefore look upon major surgery as being of recent development.

The problem of abdominal incisions has been a big one and evidently a very unsettled one all through the years. In studying the history and development of the subject, I find more than three score of incisions have been used and mentioned in the literature. For instance, eight separate incisions are described in an approach to the liver, thirty-three in operations on the gallbladder and seventeen for the removal of the appendix. Vertical incisions have been used and apparently have been the choice of most surgeons since the dawn of abdominal surgery. John of Arderne, an accomplished Caesarean sectionist, used it as early as 1303, 628 years ago. McDowel, in our country, used it for his famous ovariectomy in 1809. Lawson Tait first used the expression "abdominal section."

While it is true that the vertical incision has been used by a large majority of surgeons all through the years, yet a few voices have been heard crying in the wilderness in defense of the more anatomic and physiologic transverse incision. So far as I can trace the literature, the transverse incision was first used in a Caesarean section in the year 1798, 136 years ago. The so-called Pfannenstiel oblique incision was referred to in Heath's Translation as early as 1770. Rapen, Kustner and Hartman used it prior to Pfannenstiel but it was not published by them. In 1900 Pfannenstiel described and published it and it has borne his name since that time. The names of Billroth, Mikulicz, Rapen, Kustner, Hartman, Pfannenstiel, McArthur, McBurney, Elliott and Davis were linked with transverse incisions up to thirty-four years ago. Since that time a score of others have written interesting articles on the subject. Sloan and Singleton have modified and popularized the incision recently and it has been through their efforts that the surgeons are becoming more awake to the possibilities of the procedure.

My interest in the transverse incision, especially

*Read before the Memphis and Shelby County Medical Society on October 2nd, 1934.

in the upper abdomen, was stimulated largely by dissatisfaction with the difficulties encountered in the usual vertical incisions. I was also disappointed at the high percentage of postoperative ventral hernias and weakened abdominal walls that followed such incisions. Disabling and distressing adhesions to the parietal peritoneum were observed far too often to be of passing interest and, therefore, it is not surprising that some other type of incision that would be more satisfactory has been sought in an effort to lessen postoperative complications of a disabling nature.

The abdominal wall is supported largely by muscles and fascia. The transversalis, the internal oblique and the external oblique muscles, with their aponeurotic continuations, constitute the chief support; the vertical recti are less important. The fascia of the transversalis and oblique muscles splits at the outer border of the recti, a part of it passing in front and another layer behind the recti, to form the anterior and posterior sheaths of the muscles. It is a most significant fact that the greatest tension is always exerted in a direction parallel with fibers of muscle and aponeurosis. The muscles are on tension all the time. In case of the transversalis it is increased with respiration. Sloan found by actual measurement that the transverse pull on the posterior rectus sheath ranges from thirty to fifty pounds and it may be increased to eighty or more during straining under anesthesia, nausea and vomiting, gas distention and coughing. It is, therefore, too much to expect the fascia sutured end to end after a vertical incision, to withstand the strain which will be thrown on it postoperatively. The McBurney, the Davis and the Pfannenstiel incisions were designed to meet the problem of muscle and fascia tension, but since they are used chiefly in the lower abdomen they

will not be discussed in this paper.

The abdominal wall receives its blood supply from the lower intercostal arteries, the superior epigastric, the deep epigastric and the deep circumflex iliac. The nerve supply is derived from the lower six thoracic intercostals, the ileo-hypogastric and the ileo-inguinal nerves. These nerve trunks and filaments enter from the side and are distributed over the wall, many of them ending in the fibers of the recti. It is easy to see how a vertical incision will divide them and cut off nerve supply to the median portion of the rectus muscle and cause atrophy and weakening.

TECHNIQUE. The technique has been described by many authors and will not be discussed here in detail. Several variations are noted but basically they are all about the same. The anterior rectus sheath may be opened vertically or transversely. In gallbladder or stomach operations the rectus muscle may then be retracted laterally and the transverse fascia and peritoneum opened in a transverse direction in line with the natural course of the fibers. If sufficient room is not obtained for adequate exposure, the left rectus sheath may then be opened, the left rectus muscle retracted and the fascial incision continued transversely across the midline toward the left as far as is necessary. The falciform ligament should be divided and ligated at this point. By retracting the wound edges properly, excellent exposure of the stomach, duodenum, gallbladder and duct may be obtained. Drainage material may then be easily brought out through the right angle of the incision externally to the rectus muscle. The wound can then be closed in layers without tension. As a rule, strain and respiratory effort are absent and a closure can be made easily and quickly with a minimum amount of effort on the part of the surgeon and without disturbing the patient. Retention sutures are usually unnecessary since there is no strain on the wound. Any muscular effort on the patient's part will tend to approximate the fascial fibers rather than separate them.

WOUND DISRUPTION. In the September, 1934 issue of the American Journal of Surgery, Kennedy states that in the combined work of Joseph Price and his own, covering a period of fifty-six years, not a single case of disruption of a wound occurred. Their practice probably amounted to nearly forty thousand cases, a large part of which were abdominal sections. He adds that a prolonged experience without such a complication can scarcely be dismissed as a coincidence and, therefore, commands interest in his meth-

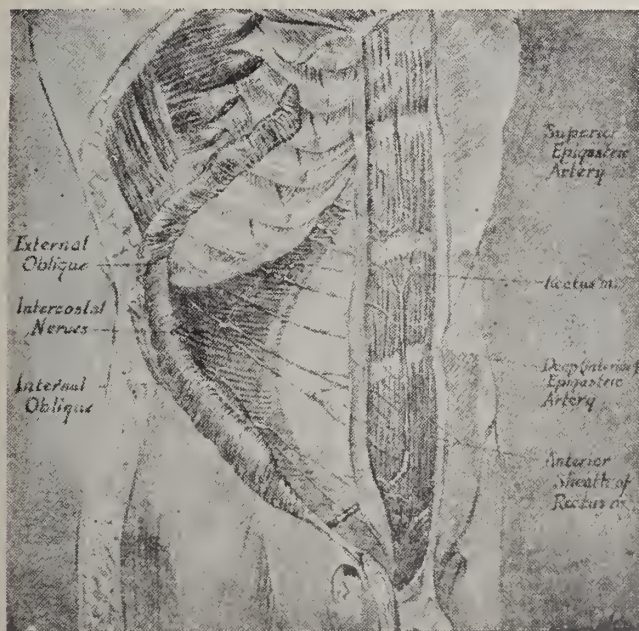


Fig. 1. (Anatomic drawing by courtesy of Dr. A. O. Singleton). The nerve and blood supply of the abdominal wall is excellently brought out in this drawing. Note that a vertical incision must necessarily divide the nerve trunks.

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od of closure. He uses a through and through suture of non absorbable material and does not use catgut. It is a noteworthy fact that a large part of that work was done in the lower abdomen. Supraumbilical wounds are far more prone to disrupt than those below the umbilicus. The experiences of Kennedy and Price are unique. Few other surgeons can claim such freedom from that serious and formidable complication. It has happened too often in my practice and I am sure but few other surgeons can claim immunity.

By and large, the frequency of disrupted abdominal wounds is surprising when one studies the reports found in the literature. Singleton recently called attention to some interesting figures on the subject. A Russian surgeon reports two to three percent in a series of 730 laparotomies. One percent occurred in the Presbyterian Hospital in New York over a period of eight years. In Mt. Sinai Hospital one percent, in Bellevue Hospital forty-six cases broke open in ten years and thirty cases at Roosevelt in the same length of time. Fifteen cases disrupted in a series of 2400 at the Post Graduate Hospital. All told, 900 cases of disrupted wounds were studied and a mortality of thirty-eight percent was found. The accident may occur at any age. Strangely enough, it occurs three times as often in males as in females. All the authors who have written on the subject of transverse incisions call special attention to the fact that wounds rarely, if ever, break open and postoperative hernias are equally rare.

I desire to emphasize the fact that this is only a preliminary report, dealing with a review of the literature, the anatomy and physiology of the abdominal wall and a mere mention of the technique of the procedure. I shall take up the postoperative course, complications and end results in a later paper.

Practically all of the operations in this series of thirty-three cases were done for lesions above the umbilicus. The Sloan type of incision was used in all but two of the cases, where the Singleton modification was employed. It will be noted that a wide

variety of conditions was encountered, most of them being in the biliary tract, stomach and one splenectomy. The appendix was removed through the original incision in two instances and a separate McBurney incision was made four times for its removal. Sloan called attention to the fact that the incision in the fascia on the right side may be prolonged downward and the appendix removed in most cases. I have not found this so easy. Probably a better plan is to make a short incision and then a separate one for removal of the appendix.

In my early work I found the transverse incision difficult to make and exposure of the gallbladder a little troublesome. With more experience it became easier to operate through this incision. Occasionally, it will only be necessary to open the fascia to the right of the midline, as indicated in Figure 3. This was done in two of our cases in this series. We removed the gallbladder in twenty, opened the common duct for the removal of stones in one, operated on the duodenum in seven, resected the stomach in one, a splenectomy in one, and abdominal exploration for inoperable carcinoma in three others. In one of our last cases the operation was done under the diagnosis of a perforating duodenal ulcer but a high intestinal obstruction was found instead. It was easily handled through the transverse incision.

The most surprising part of the operation is the ease with which the incision can be closed. Even if the patient is straining under the anesthetic, there is no tendency for the sutures to tear the tissues and the approximation is perfectly easy and satisfactory. Time lost in making the incision is easily gained in closing it.

PAIN. Postoperative pain has been negligible in practically all cases. The amount of opiates has been reduced and the patients have considerably less respiratory embarrassment than they do if the vertical incision has been made. There is also a notable reduction in nausea, vomiting and distention during the first two or three days.

CONDITION OF THE WOUND. In the early cases we did too much dissection and trauma to the superficial structures. There was an accumulation of serum in several and in two or three moderate infection supervened. In one case the superficial wound did not heal and it was necessary to excise the sinus and allow it to heal by granulation. As we have gained in experience our technique has been better developed, raw surface and trauma reduced to a minimum and wounds are healing by primary union.

It is too early yet to note the incidences of postoperative hernias since the first case was done only seven months ago. So far, we have seen no evidence of a bulging wound and we do not believe a hernia will occur in any of these.

In a former paper, published in the *Annals of Surgery*, I reported five hundred cholecystectomies with a post-operative hernia incidence of eight per-

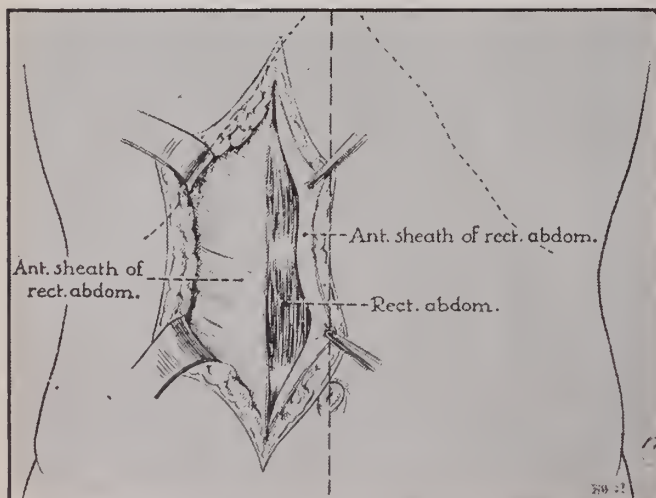


Fig. 2. (Anatomic drawing by courtesy of Dr. Arnold Schwyzer.) This drawing shows vertical skin and anterior fascial sheath incision with exposure of the rectus muscle, preparatory to its lateral retraction.

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cent. Since that time a few others have been heard from and possibly still others not heard from, in whom hernias have occurred, will raise that amount up to ten percent. Such a percentage is far too high, but I believe it is about the average in the experience of most surgeons doing a great deal of gallbladder work. If this number can be reduced to a minimum, or prevented entirely, by the transverse incision, it certainly seems a worthwhile procedure.

TIME IN THE HOSPITAL. All patients have been allowed out of bed two days earlier than the ones

tion of serum.

TYPE OF CASES OPERATED ON THROUGH THE TRANSVERSE INCISION

		Drain
Acute Perforating Duodenal Ulcer	1	1
Acute Intestinal Obstruction	1	0
Chronic Cholecystitis—Cholecystectomy only	11	3
Chronic Cholecystitis		
Cholecystectomy and Appendectomy	2	1
Same Incision		
Gastro-enterostomy for Pyloric Obstruction	2	0
Gastro-enterostomy for Pyloric Obstruction		
Cholecystogastrostomy—Carcinoma of		
Pancreas	1	0
Resection of Stomach for Carcinoma	1	0
Cholecystectomy only—Carcinoma of Gall-		
bladder	1	1
Cholecystectomy—Perforating Gallbladder	1	1
Cholecystectomy and Choledochotomy	1	1
(Stone in Common Duct)		
Cholecystectomy, Separate McBurney In-		
cision—Appendectomy	1	1
Cholecystectomy for Acute Gallbladder	3	3
Abdominal Exploration for Inoperable Car-		
cinoma	3	0
Cholecystectomy and Pyloroplasty	1	1
Splenectomy, Separate McBurney Incision		
—Appendectomy	1	0
Pyloroplasty, Separate McBurney Incision		
—Appendectomy	1	0
TOTAL	33	13

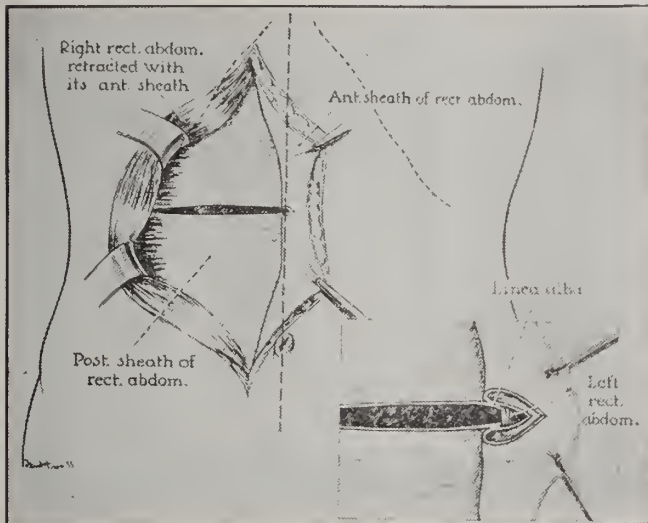


Fig. 3. (Anatomic drawing by courtesy of Dr. Arnold Schwyzer.) This drawing shows the right rectus muscle retracted laterally and a transverse incision does not cross the midline. The insert shows the linea alba divided, left rectus slightly retracted and incision beyond the midline for better exposure.

where the vertical incision was made. Their hospital stay is likewise reduced and they return to work in a shorter time. The economic phase is worth considering.

In this small group of cases it is impossible to draw definite conclusions and, therefore, we hesitate to recommend the adoption of the transverse incision in all cases. However, we have an impression that the procedure has merit in so far as it conserves the continuity of the abdominal wall, the nerve and blood supply, prevents atrophy of supporting structures and does not interfere with the physiologic function of the wall. Considering the high percentage of disruptions of the abdominal wall with a high mortality, postoperative hernias, the necessity for secondary operations, postoperative pulmonary complications, the usual amount of pain, nausea, vomiting and distention incident to the accepted vertical incision, it is our belief that by the use of the transverse incision the mortality and morbidity may be appreciably reduced.

Since this paper was written seven additional operations have been done, bringing the total number up to forty cases. We have modified and simplified the procedure by making the skin and anterior fascial incisions transversely, which appreciably lessens the amount of trauma and raw space for the accumula-

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Incipient Hypothyroidism

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The thyroid gland is the stabilizer of the body. It regulates the flow of energy into all the systems, organs and cells. Variations, in the secretion of the gland, result either in over-stimulation of the body or in diminished function. This abnormal condition may be due to disease process within the gland or to a simple deficiency.

Deficiency of the thyroid gland, according to Hartsock, may be classified into four main groups.

1. Myxedema—severe hypothyroidism in adults.
2. Cretinism—severe hypothyroidism in children.
3. Postoperative or postradiation hypothyroidism and exhaustion of the gland due to untreated hyperthyroidism.
4. Incipient hypothyroidism—mild and atypical cases of any age.

The first three groups present the well known classic pictures and offer few diagnostic difficulties when the disease is well advanced. The early cases representing the fourth group show such marked variations in the clinical picture that they are often overlooked.

Since severe hypothyroidism can be prevented, it is important that the early signs and symptoms should be recognized and preventative measures instituted before the function of the gland has been permanently damaged.

ETIOLOGY. Iodine deficiency is evidently an important factor, as hypothyroidism occurs most commonly in the goiter belt. There are other factors, however, such as acute and chronic infections, puberty, pregnancies, the menopause, emotional strain and senility. Familial occurrence seems to point to some hereditary instability of the thyroid gland.

SYMPTOMS. Hypothyroidism occurs at all ages. In children the first symptoms may be inertia, retarded mental development or behavior problems.

At puberty the slowing of thyroid function is not uncommon. The usual early symptoms are, digestive disturbances, constipation and nervous exhaustion, headache and increase in body weight.

In adults hypothyroidism produces a wide variety of symptoms, because all the functions of the body are diminished. Gastro-intestinal symptoms are common. Anorexia, fullness after eating, flatulence, nausea, vomiting and constipation are present at some stage of the disease. Constipation may be so obstinate that no form of medication will produce satisfactory elimination. Nervous disorders, such as headache, fears, anxieties, difficult concentration, mental depression and psychic disturbances are usually present to some degree. Nearly all patients are exhausted and have a desire to sleep when they are at rest.

The circulatory organs are depressed. The blood pressure is usually low. The heart muscle tone is weak, the pulse may be slow or fast, dependent upon the strength of the heart muscle. Most patients are chilly, because of the diminished peripheral circulation.

The menstrual function may suffer variations from amenorrhea to menorrhagia. Sterility has been observed in both male and female.

Joint pains, muscular aches, skin eruptions, puff-

iness about the face and hands and brittle nails are present in many of the well established cases.

The basal metabolism is always below normal. Absolute basal readings, however, are difficult to secure. Patients are often apprehensive during the test and the first reading may be above normal. Subsequent tests, however, will reveal the rate on the minus side in the majority of instances. Any carefully checked basal metabolic tests, showing subnormal rates, usually mean hypothyroidism.

There is a small group of patients with predominating symptoms of nerves exhaustion who have hypometabolism. The administration of thyroid extract to these patients as a therapeutic test will help to clarify the diagnosis.

Thyroid extract will not greatly benefit the patients with nervous exhaustion but will usually produce uniformly good results in those patients with primary hypothyroidism.

Lahey and others have called attention to the presence of a high blood cholesterol in hypothyroidism. In a large number of patients studied at the Lahey clinic the blood cholesterol determination gave a more accurate index of thyroid deficiency than did the basal metabolism studies. The blood cholesterol determination is of distinct value in children too young to satisfactorily undergo a basal metabolism test.

TREATMENT. The treatment of hypothyroidism consists of the administration of sufficient potent thyroid extract to restore the lowered cell activity to normal. One must be sure of the potency of the gland extract in use. This can be done by selecting the extract which has produced results in a proven case. The proper dosage can be regulated by the result obtained. As a rule, it is better to begin with small doses and gradually increasing to the point of tolerance. Large doses at the beginning may produce unpleasant symptoms, such as choking, dyspnea, rapid heart and breathlessness. This untoward reaction must be avoided, if possible, because the patient becomes frightened and may discontinue the treatment.

Basal metabolism readings every two to four weeks for the first two months will be helpful in determining the amount of thyroid for continued use. The improvement in the symptoms and the avoidance of hypermetabolism are fairly satisfactory evidences that the dosage of thyroid is correct.

It is more desirable to give the thyroid in the morning instead of at night, as most patients tolerate the mild nervous reactions better while up and going than they do after retiring.

In primary hypothyroidism the treatment may be necessary over long periods and often throughout life. Symptoms usually recur soon after the medication is discontinued. It is to be remembered that thyroid extract is merely a substitute for deficiency and patients may safely continue basal doses as long as they live. There is no danger in administering thyroid ex-

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tract in moderate amounts, provided the patient is kept under close supervision. A check on the patient's pulse, blood pressure and inquiry concerning the symptoms of palpitation, nervous tension and insomnia once each week for the first few months will prevent overdosage.

If there is no improvement in the patient's clinical symptoms after sufficient thyroid is given, it is direct proof that the condition present is not a true hypothyroidism but probably a hypometabolism from exhaustion or other causes.

CASE REPORTS

CASE I. Woman, single, age 50. For the past two years she has noticed a gradual increase in her weight, mental sluggishness, a tendency to forget recent events, increasing weakness in her limbs, chilliness and constipation.

The menopause came at the age of 47 years. Her tonsils were removed two years ago because of vague aches in her joints. Her weight has increased from 150 to 165 lbs., though there has been a decrease in the appetite.

Examination: Weight 165 lbs. Blood pressure 130/80, pulse 70, temperature 97 degrees F. Her skin is cool and oily. The tendon reflexes are sluggish. The general physical examination is negative.

Laboratory: The urine is normal. Blood; hemoglobin 74% (Sahli), R. B. C. 4,100,000. Wassermann and Kahn negative. Basal metabolism rate minus 18 and minus 16.

Diagnosis: Incipient hypothyroidism.

Treatment: Desiccated thyroid (Parke, Davis & Co.) two grains daily for several days, increased to three grains the second week. At the end of two weeks the basal metabolism rate was minus 6. Blood pressure was 140/85 and pulse 80. Her skin was moist and warm. She had lost five pounds in weight. She stated that she felt better than she had in years. All the previous symptoms had disappeared. Her appetite had improved, her strength increased and she was mentally alert. She continued the three grains of thyroid daily. At the end of three months her weight had returned to normal. The basal metabolism rate was plus two. She was doing more work than she had in ten years and felt entirely well.

CASE II. Physician, age 56. Has been failing in health for six years. Complaints of fatigue, insomnia, headache, anorexia, soreness and stiffness in his joints. For the past year he has been dizzy, apprehensive, depressed, cold, short of breath, has a blurring of his vision, a fullness in his head and a feeling of impending loss of consciousness. His abdomen has enlarged and he urinates too frequently. He is afraid he has kidney disease.

Examination: Weight 167 lbs., former weight 155 lbs. His skin is dry and the finger nails are brittle. His complexion is sallow. Blood pressure 120/70, pulse 90. His heart is enlarged grade I. The abdomen is enlarged and pendulous. The prostate is normal for his age. The tendon reflexes are sluggish.

Laboratory: Urine; specific gravity, 1025, trace of albumen, no casts, blood or pus. Blood; hemoglobin 70% (Sahli), R. B. C. 4,000,000. Wassermann and Kahn

negative. N. P. N. 42 mgms. Phthalein output 81% in two hours. Basal metabolism rate minus 23 and minus 20.

Diagnosis: Incipient hypothyroidism.

Treatment: Desiccated thyroid extract, two grains daily for ten days, increased to three grains daily. At the end of thirty days the entire picture had changed. Practically all the symptoms had been relieved. His fears had disappeared, his skin was warm, the vertigo was no longer present, he was alert, slept well and enjoyed his food. At the end of three months his metabolism was normal. He is still taking two grains of thyroid daily.

These two patients illustrate the variety of symptoms during the clinical course of hypothyroidism. The first patient is a fairly typical example of thyroid deficiency occurring at the menopause. The second patient had symptoms suggesting a chronic nephritis. The physical and laboratory findings, however, pointed to a hypothyroidism.

Not all cases are as easy to diagnose or respond so readily to treatment. There are many which tax our diagnostic facilities and the therapeutic test must be resorted to to make the diagnosis certain. However, careful study of those patients presenting vague symptoms of metabolic disturbances will lead to the recognition of many cases of incipient hypothyroidism.

Book Review

Practical Surgery of the Abdominal and Pelvic Regions by James William Kennedy, M.D., F. A.C.S., Philadelphia, Pa., Second Edition, 1934.

This book was written by one of the leading surgeons of today but the inspiration and stimulus for such a valuable publication comes from a great surgeon who has been dead a quarter of a century. Dr. Kennedy memorializes Dr. Joseph Price, his teacher and master of years ago in editing this book. No attempt is made, as the author states, to write a complete treatise on any subject nor is there any set rule as to the order of discussion of topics. Really the book is written in a very original and unique form, consisting largely of discussions which are not popular teaching. Dr. Kennedy's eleven years of association with the great teacher Dr. Price is very evident by the authors frequent reference to him and his teachings. This book is a result of experience and observation and presents very little theory. All through this volume Dr. Kennedy appeals for a better use of the knowledge we already have and clinical history and physical signs are given first place in diagnosis. No detailed case reports are recorded as is so frequent in as broad a scope as the author covers. Besides the complete discussions Dr. Kennedy gives the reader an additional advantage of illustrations (some in colors) of every operative procedure carried out with their description. The author has included a chapter each on the administration of ether and nursing the surgical patient. These are especially instructive. To conclude, Dr. Kennedy has recorded some epigrammatic sayings of Joseph Price which gives us an inside look into the life of this great surgeon. Price \$7.50. F. A. Davis Co., Publishers, Philadelphia, Pennsylvania.

The Dietary Management of the Ulcer Patient Before and After Operation*

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The problem of dieting the ulcer patient before and after operation is entirely different from that involved in the effort to heal gastric and duodenal ulcers medically; and the recognition of the pathologic physiology in the surgical patient, while applying the accepted principles of nutrition adapted to the needs of the individual under treatment, will reduce very materially the operative mortality of ulcer. Likewise rational postoperative dietary management will prevent many recurrences of the original ulcer, as well as safeguard against the dreaded jejunal or gastro-jejunal ulcers which follow only too frequently after gastro-enterostomies.

The failure to get the ulcer patient in the best possible state of nutrition before operation and hazardous postoperative dieting accounts for the death from acidosis, shock, and myocardial weakness of many asthenic individuals whose resistance have been lowered by years of malnutrition from pyloric stenosis with resulting gastrectasis. (Harris). It is also true that the infections causing postoperative pneumonia, pleurisy, peritonitis, and other complications following gastro-enterostomy, and gastric resection, may be prevented in many cases, if the patient is properly prepared for the operation by a few days of dieting suited to his particular needs. Therefore, the surgeon should not consider a gastric operation as merely a mechanical procedure, but should recognize the nutritional problems involved; and when possible he should associate with him in the management of his ulcer patient a physician who has had the proper training in the management of nutritional diseases and ample experience in dealing with ulcer cases.

NUTRITIONAL PREPARATION FOR GASTRIC OPERATIONS. There can be no routine diet and no fixed period of time required to prepare an ulcer patient for operation. Each case presents problems that have to be worked out to meet the nutritional requirements of the individual under treatment. The well-nourished ulcer patient, without gastric retention, and with a normal or high degree of free hydrochloric acid in his stomach contents after a test breakfast, requires very little or no preoperative preparation. For breakfast and dinner the day preceding operation he may have soft diet with no meats and no restriction of fats; and for supper, one or two crackers, or a piece of toast with jelly or honey, and a glass of skimmed milk or buttermilk. No butter, cream or other fats should be given to any patient for twenty-four hours before a gastric operation.

It is advisable for even the well-nourished patient to have at least 3000 c.c. of fluid during the

twenty-four hours preceding a gastric operation; and the nurse in charge should be instructed to see that he gets as much water and other fluids as that. The fluid intake should be charted, recording the time and amounts of water, dextrose orangeade, dextrose lemonade, skimmed milk or buttermilk, or other fluid; and the surgeon should know that the patient has had approximately 3000 c.c. of fluids during the twenty-four hours before operation. No food, not even milk or strained orange juice, should be given the morning of the operation, and drinking water should be stopped at least four hours before the patient is carried to the operating room.

It is unnecessary to wash out the ulcer patient's stomach before operation if the x-ray shows no gastric retention, and if the gastric acidity curve is normal, or high; because it has been shown that the normal amount of free hydrochloric acid in the gastric contents will render sterile the few cubic centimeters of fluid found in the fasting stomach. No purgative or laxative of any kind should be given within one or two days before operation, because they remove fluids from the blood and predispose to postoperative ileus. Enemata of a pint to a quart of plain tap water may be given once or twice a day, one or two days previous to operation. If the plain water enema is not effective in emptying the colon, two ounces of glycerine to six ounces of water may be given as an enema once or twice a day. On the morning of the operation a plain warm water enema may be given at least two or three hours before the patient is carried to the operating room.

PREOPERATIVE PREPARATION OF ULCER PATIENTS WITH GASTRIC RETENTION. Many ulcer patients do not come to operation until they have suffered for many years from repeated exacerbations of a very chronic condition, which disturbs nutrition, not only by absorption of the toxic substances resulting from infection, but by actual starvation and dehydration because of weeks or months of gastric retention from pylorospasm, or actual pyloric obstruction. (Harris). Dehydration and starvation predispose to postoperative acidosis, alkalosis and infection; therefore the important indications in the preparation of the ulcer patient with gastric retention for operation is the free use of fluids and soluble carbohydrates.

The time required for the preparation for an elective operation on an ulcer patient with gastric retention cannot be fixed because it depends upon his state of nutrition and his vitality as to whether or not he can survive a serious abdominal operation. Not less than three or four days should be required in the fairly well-nourished patient with retention; and from one to three weeks are necessary in preparing the emaciated anemic and dehydrated patient with gastric retention of over 50 percent six hours after the barium meal. (Harris).

Lahey is emphatic in stressing the need for pre-

*A revision of an address delivered by invitation, before the Clinical Congress of the American College of Surgeons (Nebraska Section), Omaha, February 4, 1930.

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operative preparation of the ulcer patient. He says:

"One of the most important considerations in dealing with patients having gastric or duodenal ulcers in whom surgery is contemplated is the realization that any operation for gastric or duodenal ulcer may prove to be a long and shocking one, and that a period of preparation with plenty of fluids, glucose and transfusion may play a considerable part in bringing the ordeal to a successful conclusion."

Moynihan⁸ in discussing the preparation of ulcer patients for operation says:

"His capacity to stand an operation is gauged, and if it proves weak we endeavor by all means in our power to fortify it. Glucose is given by the mouth, and by the rectum continuously in 15 percent solutions, with carbonate of soda, never with salt. A direct transfusion of blood may be given once or often-er. In cases with great obstruction where the tissues are parched and desiccated, and a fear of acidosis after operation may be entertained, an intravenous infusion with carbonate of soda, with or without glucose, is found helpful. If a patient is profoundly ill, these measures may be followed by a rest in one of our convalescent hospitals in the country for two or three weeks before the operation."

FLUIDS AND SOLUBLE CARBOHYDRATES BEFORE GASTRIC OPERATIONS. Soluble carbohydrates may be given freely, but no protein foods should be given for twenty-four hours before operation in the ulcer patient with pyloric obstruction because water passes out of the stomach slowly during gastric digestion, and there may be retention of fluids and food in the stomach if milk or any other food containing protein is given. Fats are retained in the stomach even longer than proteins, and an excess of fats is a cause of acidosis. Therefore, no fats should be given to ulcer patients for at least twenty-four hours before operation. (Harris)⁹

Strained lemon juice, one ounce, to five ounces of a ten percent dextrose, or glucose solution makes delicious lemonade; or strained orange juice, two ounces to four ounces of a ten percent glucose or dextrose solution (orangeade) may be given in six ounce feedings every hour during the day, and every two or three hours at night if the patient is awake up to within six hours of the operation. This will give the patient from 250 to 300 grams (1,000 to 1,200 calories) of glucose and about three litres (six pints) of fluid in the twenty-four hours. If the dextrose or glucose solution cannot be retained by mouth, it should be given by hypodermoclysis in a five percent dextrose, or glucose solution, or intravenously in ten percent solutions in quantities of from 500 to 1,000 c.c. every four to six hours. Intravenous dextrose or glucose solutions, properly prepared and properly given, often save the lives of patients before and after gastric operations.

The "intravenous drip" (Matas)¹⁰, called "venoclysis" by Hendon¹¹, is considered by many surgeons as the most satisfactory method of administering glucose solutions and other fluids before and after operations. A vein, usually the median basilic, is dissected out, a cannula is introduced and held in situ by adhesive strips. Hendon¹¹ has devised a special cannula for venoclysis. The arm is fixed by a splint. The cannula is left in the vein for three or four days, and fluids are administered as often as indicated. The

vein usually becomes occluded in three or four days so that if glucose solutions have to be continued another vein is opened. The cannula is attached to a Murphy drip outfit, the solution being kept warm by a hot water bottle wrapped and tied around the tube near the cannula. Gamble¹² has used the "intravenous drip" almost as routine, sometimes before and always after operations for peptic ulcer since 1924, and finds it the most satisfactory method of administering glucose. He usually administers 500 to 1,000 c.c. of a ten percent dextrose solution at the rate of 150 drops per minute, requiring one to two hours for the solution to enter circulation. Gamble states that since using this method surgical shock and acidosis have been eliminated in the handling of all grave surgical risks. He further states that he never has reactions following this method of administering glucose intravenously.

There are few hospitals in the United States that are properly equipped to prepare their own dextrose or glucose solutions, and most of the reactions following intravenous glucose solutions are due to faulty technique in its preparation. Therefore, it is best to use the ampules, prepared by reliable pharmaceutical houses, containing 50 grams of dextrose, the contents of which added to 500 c.c. of double distilled water will make a ten percent solution, or if added to 1,000 c.c. of distilled water will make a five percent solution. If the patient is very weak not more than 500 c.c. of a ten percent solution should be employed because there is danger of overloading a feeble heart. The intravenous dextrose solution should be given very slowly, requiring at least twenty minutes to introduce 500 c.c. of a ten percent solution into the vein through an 18 gauge needle.

THE FUTILITY OF GIVING GLUCOSE OR DEXTROSE SOLUTIONS BY THE RECTUM. Dextrose or glucose solutions when given by the rectal route are of questionable value. Having observed flatulency and abdominal discomfort in a number of our operated ulcer cases that we thought were due to the use of glucose and water by the Murphy drip, we request the surgeons who operate for us to spare the rectum and colon except for plain water enemata. Recent studies seem to prove that very little, if any, dextrose or glucose is absorbed from solutions given by the rectum. From experimental and clinical studies by McNealy and Williams¹³, Pressman¹⁴, deTakats¹⁵ and Schmidt and Cary¹⁶ it seems that the use of glucose or dextrose solutions not only is futile, but may be actually harmful to the ulcer patient either before or after operation. Apparently American surgeons are discontinuing the use of proctoclyses of all kinds after gastric surgery, because as Strass¹⁷ says they "prefer to keep the intestines at absolute rest."

WATER AND SALT SOLUTIONS PER RECTUM. Trout¹⁸ years ago protested against the then indiscriminate postoperative use of salt solutions per rec-

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tum, because he considered that an excess of salt in the blood and tissues of the body may be actually harmful to the surgical patient. Instead of the salt solutions he advised the liberal use of tap water per rectum. Unquestionably the normal salt solution may be partly or wholly absorbed through the colonic mucosa, and if too much is given particularly to the patient with damaged kidneys, as may occur in the neglected cases of gastric or duodenal ulcer, the sodium-calcium-potassium balance of the blood is disturbed, and the excess of salt in the tissues may cause edema of the lungs and other parts of the body from water retention.

It may be best to discontinue the use of the so-called normal salt solution altogether before and after gastric operations except where carefully checked laboratory studies of the blood show a low salt content as in alkalosis and in intestinal obstruction. It would seem rational to use instead not more than 1,000 c. c. a day of Ringer's solution which combines sodium, calcium and potassium in the same ration as in the normal blood. The Ringer's solution may be given with glucose either subcutaneously, intravenously, or via the rectal route.

In a very timely article on the dangers of the surgeon's order to "push fluids," deTakats¹² calls attention to "the fear of dehydration that has swept the country." DeTakats thinks 3,000 to 4,000 c. c. in twenty-four hours is as much fluid as any patient should have before or after any operation; and that where there is myocardial damage, or kidney insufficiency or both, the fluid intake should be reduced very materially. The dehydrated, emaciated ulcer patient often has some cardiorenal damage and a weak heart may fail, and poorly functioning kidneys may allow water retention with the symptoms of what Rountree¹³ calls water intoxication if an excessive amount of fluids is given.

Certainly the safest and the most accurate methods of administering dextrose solutions, Ringer's solution and saline solutions before or after operations are subcutaneously and intravenously. The rectum should not be disturbed except to give plain water enemata, not more than 1,000 c. c., once or twice a day before and after operations. If the patient cannot take fluids by mouth and one feels that he must give fluids by the rectum before or after an operation, undoubtedly the safest, surest and most comfortable method is the use of from 200 to 300 c. c. of warm tap water by enemata, given slowly through a soft rubber catheter, every two or three hours.

TRANSFUSIONS. Transfusions in preparing the undernourished, dehydrated, anemic ulcer patient for operation are of inestimable value. A transfusion of from 250 to 500 c.c. of blood provides the recipient with much needed nourishment, as well as other vital ingredients needed to carry him over the crisis of an operation. If the patient is very anemic and emaciated, one or more transfusions before and after operation may be a life-saving procedure. Undoubtedly transfusions are not employed as often as they are needed in the preparation of ulcer patients for operations.

POSTOPERATIVE DIETARY MANAGEMENT

In dieting after gastric operations the state of nutrition of the patient, the ulcer pathology, and gastric physiology should be considered. A distinguished

surgeon is credited with saying that no patient who cannot survive a week's starvation should submit to a gastric operation. It is certainly true that the amount of food that can be given safely to a patient for the first week after gastric operation amounts to only a fraction of what he will metabolize during that time. He therefore must depend largely upon his own tissues (endogenous katabolism) for sustenance. The reserve glycogen in the liver, muscles and other tissues will be utilized first, then the fats will be burned and finally the proteins will be katabolized.

SUBCUTANEOUS AND INTRAVENOUS DEXTROSE THERAPY. One thousand c.c. of a five per cent glucose solution given by hypodermoclysis every eight hours after operation will give the patient 150 grams of glucose (600 calories) in twenty-four hours, sufficient carbohydrates to insure proper metabolism of the patient's endogenous fats, thus preventing acidosis. If the patient is vomiting or if he is very weak for the first two or three days after a gastric operation, it may be best to alternate with or substitute for the subcutaneous dextrose solutions 500 to 1,000 c.c. of a ten per cent dextrose solution intravenously.

Glucose or dextrose should not be given subcutaneously in over five per cent solution because of the pain produced by the more concentrated solutions. It may be given in ten per cent solution intravenously provided it is given very slowly. The use of glucose solution by hypodermoclysis should be regarded as a minor surgical operation and it should be given under strict aseptic precautions, by the surgeon himself or by a well-trained interne. No nurse should ever be trusted to give glucose solutions by hypodermoclysis any more than she should be trusted to amputate a finger or perform other minor surgical operations.

The infections that sometimes follow the use of glucose subcutaneously may be due to faulty technic by nurses and the procedure is not without other dangers. A surgeon once ordered a nurse to give one of my patients a five per cent glucose solution under the breasts. I was called hurriedly to see the patient because she was coughing up large quantities of a bloody fluid. The nurse had introduced the needle into the lung of the patient and the patient had received at least 600 c.c. of a five per cent glucose into her right lung which nearly caused the death of a lovely, useful woman. An interne in a great teaching hospital, in attempting to give glucose by hypodermoclysis under the breast plunged the needle into the lung. The patient was nearly drowned before the mistake was discovered. Such accidents show the necessity for care in the administration of any solution by hypodermoclysis.

Intravenously administered ether by the needle or by the continuous drip (Venoclysis) method should be given by the surgeon himself or by a well trained assistant, with the same meticulous aseptic technic as the performance of a major operation. Unquestionably some of the dangerous reactions that have occurred after intravenous dextrose feedings are due to faulty technic in administration, but improperly prepared solutions, often account for such accidents.

The urine of the postoperative ulcer patient should be examined for sugar and diacetic acid once or twice a day, and blood sugar determinations should be made at least once a day in serious cases. If the carbohydrate tolerance is proved to be low and if there is

diacetic acid in the urine, ten or twenty units of insulin given hypodermatically may save the patient from acidosis.

WATER AND FOOD BY MOUTH AFTER ULCER OPERATIONS. Surgeons differ as to when water may be given by mouth after gastric operations. Since water passes out of the stomach in a few minutes when it contains no food, it would seem that after twenty-four hours no harm could be done by giving a few sips, one or two teaspoonsful, of either hot or cold water every one or two hours during the day, increasing it on the third and fourth days to two ounces on the fifth day. Certainly the sooner the patient can get his daily quota of water by mouth, without distention of the stomach, the better it is for him. The amount of water and other fluids retained should be recorded every day, reducing the subcutaneous and the intravenous use of dextrose solutions and the water per rectum as the patient can take more fluids by mouth.

Gastric physiology as well as the operative wound and the state of nutrition of the individual should be considered in dieting the ulcer patient after the operation. Gastric secretion and motility are increased by giving proteins. It therefore would seem advisable to give no food requiring gastric digestion for a week, or even longer, after operation. Protein digestion is associated with gastric peristalsis, and if milk or other food containing protein is given before the gastric wound has healed, the principle of surgical rest is violated. Friedenwald¹⁷ and Finney¹⁸ do not allow milk for the first week after operation. Jaratsky¹⁹ objects to giving milk after gastric operations as being "unphysiological and illogical," because milk excites gastric secretion and the first step in the digestion of milk is coagulation with the formation of a solid mass of curds, which require gastric peristalsis and gastric secretion for digestion.

Fats surely are not indicated for the first week after operation because of the danger of acidosis and also because fats remain in the stomach longer than other foods, and if they are given too soon after operation the stomach may become overdistended with the accumulation of food and fluids.

The soluble carbohydrates meet the nutritional needs of the ulcer patients for the first few days after operation, and also give physiological rest to the stomach. One part strained orange juice to two parts of ten per cent glucose or dextrose (glucose or dextrose orangeade) in half ounce feedings every two hours may be given on the third day, and increased to two ounces on the fourth and three ounces on the fifth day. Tea may be substituted for the dextrose orangeade in proportion of a teaspoonful of strained lemon juice and three grams of dextrose (corn sugar) to the ounce of weak tea. The danger of acidosis usually will have passed before the end of the first week after operation; and during the second week the patient may have three small meals a day, consisting of oatmeal and other cereals, with cream, white bread toast, one egg for breakfast and supper, pureed vegetables for dinner, with frequent feedings between meals and if awake at night of tomato juice, strained orange juice, dextrose orangeade, dextrose lemonade, or gingerale. No milk and no meats are given during the second week.

During the third week the diet should be more

nutritious, about the same as when dieting the medical ulcer patient (Harris^{20, 21, 22, 23, 24}) and milk, scraped beef or minced chicken are added, but the quantities of each article of food should be specified and a prescribed diet should be given; because it should be remembered that while the gastroenterostomy or gastric resection wound usually heals within fourteen days, the union cannot be said to be firm, and overdistention of the stomach should be avoided. In discussing postoperative treatment Eusterman²⁵ brings out this point forcefully in the following paragraph:

"Flint has shown in animals that the new formed anastomosis is the site of a healing surface for about two weeks. Clinical experience repeatedly demonstrates that ulceration in the suture lines, regardless of the type of operation, or at the gastrojejunal orifice, may appear shortly after operation. An intact gastric mucous membrane can tolerate much abuse, but in the presence of ulceration or during the healing process a proper regimen may determine the ultimate success or failure of the surgical procedure."

Likewise it should be remembered that following a gastroenterostomy the original ulcer has not healed at the end of one or two weeks and much of the food still passes over the ulcer-bearing area of the duodenum. Therefore, it is absurd to "take the bridle off and let the gastroenterostomy patient eat what he wants two weeks after his operation."

The diet after the third week should be as nutritious as possible and may conform to the plan of the well balanced rich vitamin diets as employed in the medical treatment of ulcer (Harris²⁶).

A conservative estimate of the time required for a gastric or duodenal ulcer to heal, whether treated surgically or medically, is from six weeks to two or three months; and the patient should be impressed with that fact and dieted accordingly. Bolton²⁷ thinks that it may take a year for an ulcer to heal, even after a gastroenterostomy.

It is true that at the end of two weeks after an operation for ulcer the average patient feels well, he usually is hungry, and he feels that the surgeon has "cut out" the ulcer or the cause of his trouble, just as an appendectomy forever removes the hazard of another attack of appendicitis. The busy surgeon too often neglects to inform his gastroenterostomy patient of the fact that he has not "cut out" the cause of his trouble, that neither he nor anyone else knows the actual cause of his ulcer, and that if he would avoid a recurrence of his ulcer he must eat rationally and live moderately.

Lahey²⁸, who perhaps has had as large a personal experience in gastric surgery as any man in the world, has strong convictions regarding the medical after-case in operated gastric and duodenal ulcer cases. The following paragraph is quoted from an article by him:

"Any unprejudiced person must admit that a patient who has had an ulcer, whether operated on or not, is always a possible candidate for another ulcer, and that those patients who have submitted to surgical procedures for ulcer, no matter what the type, are less likely to have recurrent ulcers and more likely to have better end-results when placed on just as careful postoperative medical management as if they had not been operated upon, and when urged to modify their habits of life just as much as they would if

placed on non-operative medical management."

Likewise Sullivan²⁸, Finkelstein³⁰, Kruse³¹, Ralph Brown³², Patterson³³, Rowlette³⁴, and other surgeons stress the need for medical supervision of patients who have been operated upon for peptic ulcer.

There are many articles in medical literature calling attention to recurrences and marginal ulcers after operations for gastric and duodenal ulcers. Eusterman³⁵, Bastedo³⁶, Smithies³⁷, VanderHoof³⁸, and others too numerous to mention, believe that inadequate dietetic and medical treatment is responsible for many failures in gastric surgery.

The wise surgeon will turn the feeding of his operated ulcer patients over to an experienced gastroenterologist or internist for dieting after the first two or three days, and when he dismisses the patient surgically he will admonish him to follow the diet prescribed for him for at least six months; and for the rest of his life to have a semi-annual physical examination, with particular attention to the gastrointestinal tract.

Tom Brown³⁹ once remarked:

"The personality of the physician has much to do with his success in treating ulcer. The physician who can impress the ulcer patient with the necessity for sticking to his diet and living a hygienic life will get the best results in treating ulcer."

Likewise the conscience and the personality of the surgeon have much to do with the end results of his ulcer operations. If he realizes that his duty to his operated ulcer patient does not end with the healing of his wound; and if he will take the time to impress upon him the necessity for moderate hygienic living for the rest of his life, he will cure more of his ulcer patients than if he lets them go home two or three weeks after operation with haphazard instructions about the diet and personal hygiene.

The convalescent period following an operation is a good time to teach the ulcer patient the personal hygiene adapted to his individual needs (Harris⁴⁰). He should be carefully questioned about his eating and living habits and if they are faulty he should be taught to correct them. The ulcer patient should be taught the necessity for thorough mastication of food and while in the hospital he should be required to eat slowly and learn to enjoy eating, not altogether what he wants, but the foods that are best for him. "Eternal vigilance is the price of liberty" and regular systematic living for a long time is the price for the enjoyment of health and life for the patient who has had an operation for gastric or duodenal ulcer.

A SIMPLIFIED POSTOPERATIVE ULCER DIET

It is not possible to construct a diet that may be used in every ulcer case that has been operated upon any more than a routine diet can be used with every ulcer patient treated medically, but we have prepared a diet that will meet the nutritional needs of the average postoperative patient, while at the same time taking into consideration the ulcer pathology and gastric physiology involved. It may be modified to suit the indications in the individual case. Copies are given to the resident surgeon, or surgical interne, the nurses and the hospital dietitian with instructions to change the orders only with the approval of the surgeon or the associated physician.

If there is retching and vomiting at any time after operation, discontinue everything by mouth for

four hours; and if at the end of that time the nausea has subsided, the water and glucose feedings may be resumed. If the nausea and vomiting persist after four hours, particularly if the pulse rate is high, and there are evidences of gastric retention, or of acute dilatation of the stomach, gastric lavage, using a sterilized stomach tube and sterile water, is indicated. Balfour⁴¹ and W. J. Mayo⁴² insist that at any time after operation if the pulse becomes rapid, or if there is any nausea, or even a suspicion of gastric retention, there should be no delay in passing the stomach tube, because it is important to prevent distention of the stomach. Care should be taken not to introduce too much water at a time in gastric lavage after ulcer operations. Since morphine, codeine, pantopon or other narcotics cause vomiting with some patients, they should be discontinued, or reduced to the minimum amount required to relieve pain as soon as possible after operation.

First Twenty-four Hours—No food or water by mouth. Two hundred fifty c.c. plain warm water by slow enema every two hours. If the patient is vomiting, or in shock, or if there is diacetic acid in his urine, 1,000 c.c. of a five per cent dextrose solution is given subcutaneously every eight hours. Five hundred c.c. of a ten per cent dextrose solution intravenously may be substituted for the subcutaneous dextrose once or twice a day. Water per rectum should be regulated so that the patient does not get more than 3,000 to 4,000 c.c. of fluid a day.

Second Day—No food. Begin with one teaspoonful hot or ice water by mouth every hour. If no nausea, increase water to four teaspoonsful every hour, day and night when awake. Fluids and dextrose solutions subcutaneously, intravenously and per rectum as for first day.

Third Day—Two ounces (60 c.c.) cool water every two hours day and night when awake. Two ounces ten per cent glucose lemonade, or glucose orangeade, at 7:00 and 10:00 a. m., 1:00, 4:00, 7:00 and 11:00 p. m. and 4:00 a. m. May substitute two ounces (60 c.c.) weak strained tea for 7:00 and 10:00 a. m. and 1:00 p. m. glucose solution. If fluids are retained by mouth reduce the glucose or dextrose solutions by 500 c.c. and water per rectum by 500 to 1,000 c.c.

Fourth Day—Three ounces (90 c.c.) cool water every two hours when awake day and night, alternating with three ounces (90 c.c.) of weak tea with one teaspoonful sugar (without cream); or three ounces of a ten per cent glucose lemonade, or glucose orangeade, or three ounces of gingerale. Tea may produce wakefulness if given after 4:00 o'clock in the afternoon, particularly when given to one who does not ordinarily drink tea or coffee. The water by proctoclysis and glucose solutions by hypodermoclysis, or intravenously, may be discontinued on the fourth day if the patient can take fluids by mouth; but if nausea and vomiting persist, they should be given as on the first day.

Fifth Day—Water and the ten per cent glucose lemonade, or glucose orangeade, or grape juice, or gingerale may be increased to four ounces and given every hour and a half, the water alternating with the tea, glucose solution, grape juice or gingerale every three hours.

Sixth Day—Water should be given freely between feedings, not over four ounces (120 c.c.) at a time.

One egg albumen and three ounces of ten per cent glucose lemonade, or glucose orangeade, or four ounces gingerale every two hours from 8:00 a. m. to 7:00 p. m. and every three or four hours at night if awake.

Seventh to Tenth Days.—7:00 a. m., breakfast: three ounces strained orange juice; four tablespoonsful of strained oatmeal gruel, with two ounces cream; one soft boiled egg; one slice white bread toast with crust trimmed off, and one pat butter. 10:00 and 11:00 a. m.: Five ounces (150 c.c.) dextrose orangeade, or five ounces gingerale. 12:00 m., Dinner: Three ounces (90 c.c.) puree of peas, beans or potato; one slice of white bread toast and one pat butter; two rounded tablespoonsful of plain jello or ice cream. 3:00 and 5:00 p. m.: Five ounces strained tomato juice, or five ounces dextrose or glucose orangeade, or five ounces gingerale. 6:00 p. m., Supper: Three ounces strained orange juice; four tablespoonsful strained oatmeal and two ounces cream, no sugar; one soft poached egg on white bread toast, and one pat butter. 9:00 p. m. and 1:00 and 2:00 a. m., if awake: Five ounces strained tomato juice, or five ounces of dextrose or glucose orangeade, or five ounces gingerale.

Eleventh to Fourteenth Days—7:00 a. m., Breakfast: Three ounces strained orange juice; six tablespoonsful of strained oatmeal, with two ounces cream; one soft boiled egg; one slice white bread toast with crust trimmed off, and one pat butter. 10:00 and 11:00 a. m.: Five ounces (150 c.c.) dextrose orangeade, or five ounces gingerale. 12:00 m., Dinner: Five ounces strained tomato broth, or strained vegetable soup, or creamed soup; one slice of white bread toast and one pat butter; two rounded tablespoonsful of plain jello or ice cream. 3:00 and 5:00 p. m.: Five ounces strained tomato juice or five ounces dextrose or glucose orangeade, or five ounces gingerale. 6:00 p. m., Supper: Three ounces strained orange juice; six tablespoonsful strained oatmeal, or cream of wheat, and two ounces of cream, no sugar; one soft poached egg on white bread toast and one pat of butter. 9:00 p. m. and 1:00 or 2:00 a. m., if awake: Five ounces strained tomato juice, or five ounces of dextrose or glucose orangeade, or five ounces strained tomato juice, or five ounces of dextrose or glucose orangeade, or five ounces gingerale.

Fifteenth to Twenty-first Day—7:00 a. m., Breakfast: three ounces strained orange juice or strained grapefruit juice; six tablespoonsful strained oatmeal, cream of wheat or other smooth cereal; three ounces cream; one soft poached or soft boiled egg; one slice toast, whole wheat bread, and two pats of butter. 10:00 a. m.: Five ounces milk (half cream). 12:00 m., Dinner: Four ounces strained tomato juice or strained vegetable soup. Four rounded tablespoonsful scraped beef or minced breast of chicken; four rounded tablespoonsful tender green vegetables, as turnip greens, spinach or string beans (mashed through a sieve; one slice whole wheat bread toast; two pats butter; one rounded tablespoonful ice cream, cup custard, boiled custard, or gelatine and cream. 3:00 p. m.: Five ounces milk (half cream). 6:00 p. m., Supper: Four ounces thick puree of peas or beans; four tablespoonsful tender green vegetables as turnip greens, spinach or string beans mashed through a sieve; one slice whole wheat bread toast; two pats butter; five ounces milk; three ounces strained orange juice. 9:00 p. m.: Five ounces milk (half cream).

Fourth, Fifth and Sixth Weeks: 8:00 a. m., Breakfast: three ounces strained orange juice; six tablespoonsful strained oatmeal, or one shredded wheat biscuit, or other cereal (no bran); three ounces cream; one egg, soft boiled, poached or scrambled; one slice dry toast, whole wheat bread; two pats butter. 10:00 a. m.: Five ounces milk (half cream). 1:00 p. m., Dinner: Four ounces strained tomato juice, clear broth or tomato broth, or strained vegetable soup; four to six rounded tablespoonsful scraped beef or minced chicken or lamb; four to six tablespoonsful turnip greens, spinach or string beans, or carrots, mashed through a sieve, one slice dry toast, whole wheat bread; two pats butter; four tablespoonsful ice cream, boiled custard or gelatine, or watermelon or cantaloupe juice. 4:00 p. m.: Five ounces milk (half cream). 6:00 p. m., Supper: Four ounces thick puree of green or dried peas or butter beans; four to six tablespoonsful turnip greens, spinach or string beans or carrots, mashed through a sieve; one slice whole wheat bread toast; two pats butter; four ounces milk; four ounces strained orange juice. 9:00 p. m.: Five ounces milk (half cream).

Diet after Six Weeks—Breakfast: One fruit: strained orange or grapefruit or cantaloupe juice. One cereal: small portion of thoroughly cooked oatmeal, or other cereal, no bran, or one shredded wheat biscuit with one-half glass cream, no sugar. Eggs: one egg poached or soft boiled, or soft scrambled. Bread: one slice whole wheat bread toast, two or three pats butter; two tablespoonsful honey. Milk or cocoa; one glass milk or cup of hot cocoa.

Three Hours After Breakfast—One glass milk (one-third cream).

Dinner—Soup: Strained chicken, celery, vegetable, barley soup, or strained tomato juice. Tender meats (small portion): broiled, or baked, not fried; small portion of chicken, turkey, mutton, roast beef, bacon, thinly sliced boiled ham, or fish. Tender green and yellow vegetables (one variety of each): large serving spinach, turnip greens, tender string beans, cooked without much grease; carrots, squash, or young turnips. Butter or mayonnaise or olive oil and lemon juice may be used freely on vegetables after they have been cooked. Bread: on slice whole wheat bread or dry toast, or small piece of country ground corn meal bread, or one small corn muffin; two or three pats of butter. Milk: one glass milk or buttermilk (one-third cream). Dessert: soft part of baked apple, thoroughly ripe banana or other fruit with cream, no sugar. Ice cream or gelatine, or sherbet, twice a week.

Supper—Soup: puree (thick strained soup) of peas or beans, or oyster stew, no oysters. Raw vegetable salad: crisp lettuce (trim out tough stems); peeled tomatoes (cut out tough centers); crisp cole slaw made of leafy part of tender cabbage (cut out the stems of the leaves). Olive oil and lemon juice or apple vinegar, or mayonnaise dressing may be used freely. Two crisp crackers. Cheese: 4 tablespoonsful homemade or dairy made cottage or cream cheese, or the equivalent of two tablespoonsful of Swiss, Philadelphia or yellow American cheese, never cooked. Bread: one slice whole wheat bread or dry toast, or six crackers. Two or three pats butter. Milk: one glass sweet milk, or buttermilk (one-third cream). Dessert: strained orange juice, soft part baked apple, or very ripe banana and cream without sugar, or gelatine, or egg

custard.

There can be no doubt of the desirability of dieting the postoperative ulcer patient in a hospital for at least three weeks; and before he leaves the hospital the surgeon or the physician should be sure that he understands and can carry out written instructions regarding the diet and personal hygiene adapted to his individual needs. It is particularly important that the convalescent ulcer patient should understand the necessity for eating a sufficient quantity of a diet that is well balanced as regards proteins, carbohydrates and fats rich in vitamins. An adequate follow-up system is important after gastric operations in order to see that the patient carries out his prescribed diet and the other instructions that were given him when he left the hospital.

Sir Berkeley Moynihan⁴⁵ gives his convalescent postoperative ulcer patients printed instructions regarding their diet and living habits, which they are admonished to carry out faithfully. A copy of the following outline of a system of hygienic living (Harris⁴⁶) with copies of simplified diet lists prepared to suit his particular needs is given to each of our ulcer patients before he is dismissed from the hospital:

(1) Diet.—Three medium meals a day at the same hours and a glass of milk between meals for at least three months after treatment; then one raw fruit, one raw vegetable, two cooked tender green vegetables, a pint to a quart of milk every day for the rest of the ulcer patient's life. Meat and light desserts are allowed not more than once a day; and enough bread, potatoes, rice, butter and other simple foods to maintain the normal weight. Thorough mastication of food is very important.

(2) Work.—Six to eight hours of honest work a day for five days a week and three or four hours on Saturday. Avoid overwork.

(3) Sleep.—Eight or nine hours in bed at night; and lie down (sleep, if possible) for half an hour after the noon meal.

(4) Exercise.—Fifteen minutes' room exercises with windows wide open before the morning bath. Follow the bath with massage (brisk rubbing with open hand) of the entire body until the skin is reddened. A walk of one or two miles in the open air and sunlight each day, or, what is better, play golf two or three afternoons a week.

(5) Recreation.—Eight hours for play includes morning exercises, bath, golf or other outdoor exercises; time for eating at least one-half hour for each meal, perhaps an hour for dinner, and no work or serious reading after 6 o'clock in the afternoon. Frequent week-end trips and an annual vacation of from two weeks to a month every year.

(6) Serenity.—Worry, anger, grief, abnormal fears, or other emotional disturbances will break down resistance to infections. Therefore, the cured ulcer patient should cultivate serenity in all the relations of life.

(7) Eliminate the Toxins.—Coffee, tea and the so-called cola drinks, which contain caffeine, a habit forming drug, should not be used by the ulcer patient, except occasionally as a stimulant after losing sleep, or as a drug for headache or shock. Tobacco and alcohol are predisposing causes of ulcer and are quite injurious to the ulcer patient. Therefore, he should

never use them in any quantity, even after his ulcer has been pronounced cured.

(8) The Annual or Semi-Annual Physical Examination.—The ulcer patient should report to his physician once a month for six months, and then for the rest of his life have an annual or semi-annual physical examination, with particular reference to a possible return of the ulcer; or the possible development of a cancer of the stomach, which, if diagnosed early, can be cured by operation.

Each section of the above outline of hygienic living is discussed with the patient and he is shown how he can conform his daily habits to a regular systematic regimen. He is also impressed with the fact that his future health, efficiency and happiness depend largely upon his living the simple hygienic life and that he must do his part in preventing a recurrence of his ulcer.

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Dr. Owsley Manier



Dr. Owsley Manier, of Nashville, the popular and efficient president of the State Medical Association of Tennessee.

Dr. Felix J. Underwood



Executive Secretary of the Mississippi State Board of Health. He recently spent several days in Washington in the interest of an appropriation for rural health work. He has been requested by the President's Committee on Economic Security to serve as a consultant to them.

We believe that you will agree that the list of papers published in this issue run a very high batting average. We appreciate the many expressions from our readers saying that The Mississippi Doctor publishes the most readable and the most helpful papers of any journal that comes to their desk. We thank each essayist for his contribution.

Problems In Plastic Surgery of Interest to the General Practitioner

WM. MILTON ADAMS, M.D.
Memphis, Tenn.

It is very important for every member of the medical profession to ever keep in mind what a well performed plastic operation can do for the many unfortunate patients who are badly deformed and disfigured. It may not only restore normal function and give a good cosmetic result but relieve the patient of much mental anguish. Often the disfigurement may be so slight that it will be unnoticed by the casual observer, but in the mind of the patient be very noticeable and distracting.

Even in a very small child a visible deformity or disfigurement many times has a direct bearing on the development of the child's mind. Usually before the child becomes old enough to go to school it becomes very sensitive of its affliction, whether it be a deformity such as a harelip or a facial disfigurement from a retracting scar as result of a burn. The child doesn't enjoy being with his playmates; he much prefers to play alone. The nicknames that are usually given him by his playmates, such as, "Split-lip" and "Scar-face," are very much resented and he is usually helpless to do anything about it. Many of them have to be known by these irritating nicknames all through school. Most of these children do not develop in their school work as they should because they develop a negative, indifferent personality. They have an inferiority complex and are not free to express all that they really know. Many of them get the reputation of being bad because they have so many fights, which usually result from their playmates teasing them.

There are many young people in the unstable years of adolescence and early maturity who are so sensitive to even the slightest disfigurement that they prefer complete social retirement rather than exhibit their real or imagined affliction. In most of these cases, plastic surgery can restore anatomic normality and psychic health as well.

The indifference or lack of sympathy which many physicians display toward these patients in their desire to have the disfigurement removed is responsible for the prevalence of quackery in this field today. When the family doctor doesn't give them proper co-operation they seek advice and relief from beauty parlors and advertisements in cheap magazines and newspapers. It seems that there is inconsistency in urging a total gastrectomy, let us say, upon a patient that has already lived out his or her best days, and who at best has only a few more years to live, probably one or two and then in discouraging a young man or woman, whose biggest part of their life is before them, in having some facial disfigurement removed that is taking much happiness out of their life. The risk attached to such an operation, for instance a nasal plastic, is nil compared to the danger of mental distortion by allowing them to go through life with an overwhelming consciousness of their deformity and disfigurement.

Only recently I had a young lady who came to me, wanting some tattoo marks removed from her

arms just below the shoulder joints. These marks had been put on her when a young girl in a circus. Soon afterwards, she left the circus and returned to her home. She was so sensitive about the marks that she used every precaution to keep even her immediate family from knowing about them. She had worried about them so much that she was in such a terrible state of mind that it was necessary to send her to a hospital of mental and nervous diseases for relief before I was able to remove all of the tattoo marks. This patient had been trying to find someone to remove the marks for several years but was not able to do so. Had she fallen into the hands of a competent plastic surgeon a year or so previously, I feel sure she would be a happy and a normal individual today.

In this machine age in which the number of men and women employed in gainful occupation is decreasing so rapidly and in which competition is so great, individuals afflicted with physical disfigurements are much less likely to secure employment than their competitors who are physically normal. It is not at all common to have patients who want all sorts of physical defects removed, as they say they cannot obtain employment because of their appearance. By removing these physical and resulting mental handicaps many of these patients are made self-respecting and self-supporting members of society. This makes the economic question in plastic surgery an important factor.

Also plastic surgery has its legal aspects as it has been found invaluable in reducing disfigurements and restoring normal function resulting from automobile and industrial accidents. By so doing the insurance companies are relieved of heavy damages for permanent disabilities. Compensation cases can frequently be repaired so that they can resume their former occupation. In restoring these patients to their former state, long-drawn out, troublesome and expensive legal procedures are prevented. By relieving the insurance companies of these unnecessary claims, we help to keep our own insurance rates down. As long as there is a continual increase each year in the number of claims against the insurance companies, it is useless to expect anything but an increase in our insurance premiums. Thus it affects all of us indirectly.

Practically always the general practitioner is first consulted as to the advisability and the best time for surgical repair; and it depends upon his advice whether or not these patients are treated at a time when the condition is most amenable to treatment, or at a time when the condition is much more difficult to correct.

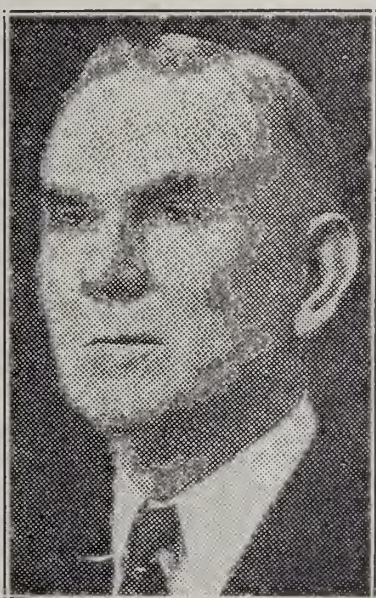
To keep advising parents who have a child with a harelip and cleft palate to wait until it is a little older is a great injustice. Harelips, as a rule, are best corrected the first few days of life, and cleft palates before the child is old enough to begin talking—usually best from 15 to 24 months of age. Before this the muscles and other tissues of the soft palate are so delicate that they will not stand suturing. By eliminating delay in excision of conditions that may be the beginning of possible cancer and replacement of the defects with skin grafts, cancer will be prevented in many cases. For instance, long standing ulcers with constant irritation and open lesions from X-ray and

radium. Skin grafts, per se, are not prone to develop malignancy, as it has been found that when there is a recurrence of the cancer, it does not appear in the graft but in the adjoining skin or edges of the wound.

In reparative and reconstructive surgery the same broad surgical principles of any other operative specialty are employed and in addition it has certain requisites peculiar to itself. It has established its right for existence on a plane equal to that of any other medical or surgical speciality, through its success in restoring physical function and relieving many seriously handicapped patients of a great amount of mental suffering due to their physical disfigurement, thus placing them in their rightful position in society.

Dr. J. R. Hill

Corinth, Miss.



Just around the corner! Next month comes the big treat to doctors of this section in the Mid-South Post Graduate Assembly that will convene in Memphis. This assembly has grown until it is one of the best in our country. We have the opportunity of contacting and hearing outstanding men from all over our country.

The Mississippi Doctor is planning to send out five thousand copies in interest of this association. This is characteristic of the Editor, my good friend Dr. W. H. Anderson, who is always ready to do the lion's part in promoting organized medicine.

Dr. Anderson is proving himself a great journalist in giving us the most helpful journal for this section of our country. I feel that we are not as loyal as we should be in not making the Mississippi Doctor the official organ of The State Association.

I believe the doctors of Mississippi are as loyal and progressive as those from any state and expect to see a strong delegation at Memphis February 12 to 15. Come on boys and let us get in tune for our meeting in May at Biloxi.

DR. J. R. HILL,

President-Elect Mississippi State Medical Ass'n.

Many teachers in medical schools should take a post graduate course in country practice.

Book Review

Have you seen the new DAILY LOGS, a brief and accurate financial record for the physician's desk? It is put out by the Colwell Publishing Company, of Champaign, Illinois. It contains forms for daily pages, monthly business summary, expenses, personal accounts, appointments, surgical record, etc., and in the back your obstetrical waiting list, an annual summary and death records. A really valuable form in a leather bound volume. Price \$6.00.

Book Review

"THE CRIPPLED and THE DISABLED," by Dr. Henry H. Kessler, medical director of the New Jersey Rehabilitation Commission, is unique in its subject matter, convincing in its arguments and strikes at one of the most significant problems confronting our social and economic civilization today. Dr. Kessler's logic would rehabilitate the military, the industrial and the chronic disabled so that each one of them might find an active and altogether useful part in the social and economic system. He considers the crippled child, the blind, deaf and dumb, as well, insisting that if they were aided in their adjustment to the occupations to which they are best suited they can become self-supporting and responsible citizens of their community. Dr. Kessler acknowledges that the problem pivots on re-educating the laity in their attitude toward these unfortunates and acquiring necessary legislative measures to help them in their adjustment. This problem has been brought more forcefully before the public in the new social and economic adjustment, but the physically disabled have not been helped to help themselves; they are left dependents or put on relief pensions, which, obviously is not the satisfactory solution to the problem.

Read Dr. Kessler's book. It has solid value in it for the man in medicine who can aptly appreciate a study of rehabilitating the physically handicapped.

Price \$4.00. Published by Columbia University Press, N. Y.

Book Review

Every physician welcomes something new on physical diagnosis. Elmer and Rose, in their new edition of "PHYSICAL DIAGNOSIS," present this subject in a somewhat different manner, very interestingly and clearly. The authors take up the diagnosis by inspection of the body minutely, then by palpation, in its normal and abnormal aspects. Accompanying the discussions are X-ray and photographic illustrations of value throughout the book, but particularly valuable are those X-ray readings of the respiratory system. Radiographs and electrocardiograms are prolific in the pages treating auscultation and special diagnostic procedures. In diseases of the heart the practitioner might put his hand on a safe diagnostic procedure. The authors' style is exceedingly simple and readable, combining a terse method and frequent lecturing.

The price of the book is \$8.00, published by C. V. Mosby Co., St. Louis.

Periodic Health Examinations

FELIX J. UNDERWOOD, M.D.
Jackson, Miss.

As the New Year, 1935, starts I wish to remind you that it is inventory time and that it is quite as important to "take stock" of your physical assets and liabilities as it is of your financial resources.

Seventy-one years ago when Dobell suggested the establishment of some form of periodic health examination, his was a voice crying in the wilderness. The period in which he lived and was most active was the beginning of a Renaissance period in the history of medicine and surgery. The discoveries of Pasteur, the advanced thinking of Lord Lister, the tragic demonstrations of Semmelweis, each marked an epoch in the history of medicine. None of them met immediate acceptance by the medical profession. So it was with the proposal of Dobell, and not until after the dawn of the twentieth century did the idea begin to take firm hold. Strange as it may seem, it remained for a layman to provide the impetus that really gave the movement its start in this country. The late Theodore Roosevelt, while President of the United States, ordered annual physical examinations of all army officers. The results were so astonishing that industry began to take notice, and by 1915 we began to hear much talk of periodic health examinations. For many years now it has been customary for the railroads and large industries to require physical examinations, and with many the practice of conducting annual examinations has become routine. As early as 1913 some railway systems required annual examinations of all signal men, telegraph operators, and various foremen with the idea of determining color perception, vision, and hearing.

We do not think of running our automobiles without having them thoroughly gone over frequently. But we think nothing of neglecting to have this very important thing done to the wonderful human mechanism we carry around with us in our bodies. We can buy spare parts for our automobiles, but when the heart, the kidneys, the nervous system, or other parts of the human machine show signs of wear and tear we can't replace them with new ones. However, we can conserve and prolong its usefulness.

One of the best ways to do this is for each person to go to his or her doctor and dentist, at regular intervals, for a thorough medical and dental examination. If a weak spot has developed in some part of the system, there are frequently ways by which the encroaching weakness or disease can be checked. This will help in prolonging life for healthy usefulness.

Boys and girls who are growing up today are getting accustomed to these periodical examinations through the regular school inspections. Every young mother knows that the best way to keep her baby and other young children well is by having them under medical supervision. So, it is the grown-ups who need this advice, and I urge each individual who has not had an examination recently to begin the New Year right by following the custom of the wide awake motorist. Have all parts of your body machine checked, and follow the advice of your physician and dentist.

We all know that it is a good idea to consult a physician in regard to one's diet—being sure he is familiar with modern dietetics—and endeavor intelligently to follow his advice rather than to insist on one's own diet, selected from the standpoint of mere self-indulgence or custom. The periodic health examination is a safeguard in this relationship. Moreover, since many, without being aware of the fact, are affected with Bright's disease, diabetes, heart disease, and other organic troubles in their early stages, in which dietetic precautions are especially necessary, it is well for even those who are apparently in good health, to be medically examined as a preliminary to a re-arrangement of their diet.

Many people consider that they are in perfect health because they experience no pain. This reasoning is often entirely wrong for while some disease processes make their presence known by painful symptoms, there are many others which are unaccompanied by pain until the late stages when permanent and serious damage has been done. Diseases which occur without painful symptoms are the worst kind. They creep upon their victims and often are present for long periods of time before discovery. Often it is too late to stop their progress or even to save life.

The loss occasioned by diseases of this nature amounts to about seven hundred thousand lives each year throughout the United States. The disease conditions which cause more or less pain furnish the lowest death rates, probably because the pain leads to a search for the cause and allows treatment to be instituted early.

Among the diseases which have serious consequences, but which are not accompanied in the early stages by pain, are cancer, kidney disease (nephritis), arteriosclerosis (disease of the blood vessels), heart disease, diabetes, and tuberculosis. Pain cannot be used as an indication of the presence or absence of these conditions.

An annual physical examination will often disclose these conditions while they are in the early stages and while there is yet time to stop their progress. The purpose of such an examination is not to find actual disease, but to detect early signs of physical impairment, predisposition to disease, or faulty living habits.

Early detection of these conditions and correction of them give much help in reaching the Biblical "three score years and ten." It is too late for an overhauling after the machine breaks down. Much impairment of usefulness and many early deaths can be prevented by regular physical and dental examinations.

It is a difficult task to convince a healthy person of his need to consult a physician. He does this when he is really sick, but he hates to go to the doctor when he apparently is well.

It is most satisfying to have a physical examination by a competent physician and be pronounced free of defects. Too, you have the assurance that when next you are examined if anything is found, it will be found in the curable stage most likely. The first check-up is the important one, but each succeeding one has its value. Many medical authorities advocate complete dental and physical examinations twice a year instead of once, but if we begin by go-

ing once a year, at the beginning of each New Year, we are doing well and then maybe we shall see the value and satisfaction of having this check-up and start going every six months. After you have had an examination, tell your friends of the many advantages found in this method of combating disease and prolonging life and usefulness. Insist on having every part of the body checked. The span of life is lessened if one learns too late that trouble has developed, and progressed.

In a recent study made of a group of people, it was found that of those who had examinations only three percent included X-ray service, and only seven percent had one or more laboratory procedures.

At the present time, the annual health examination exists more in theory than in fact among the general population. Only about four percent of all our well people have examinations. But the habit is growing in popularity as people learn of the economic and physical comfort value, and the assurance that it will prolong life.

During the past year, every person working for the State Health Department had dental examination and correction of defects; typhoid vaccine; smallpox vaccine; a Schick test to determine susceptibility to diphtheria, and toxoid if needed; and a complete physical examination by a competent private practitioner.

The Mississippi State Hospital Association

LEON S. LIPPINCOTT, M.D., Editor—Vicksburg
KATE LOU LORD, R.N., Associate Editor—Hattiesburg

THE ANTI-VIVISECTION CAMPAIGN*

The Anti-vivisectionists, with ample funds at their disposal and with the support of powerful newspapers, are conducting an energetic campaign in 32 states, and are organized, as they publicly announce, to carry their fight to the finish. Model bills against vivisection will be introduced in 32 state legislatures at the coming sessions.

The enactment of these laws would be highly inimical to medical research. It would impede medical progress and hamper medical education. To prohibit animal experimentation would destroy the processes that have yielded many discoveries that have contributed to the prolonging and saving of the lives of many millions of our fellow-beings, particularly of our children.

Animal experimentation is conducted humanely. Operations are invariably performed under an anesthetic. Medical progress cannot continue without the use of animals for diagnostic, drug standardization, as well as for research and teaching purposes. Hospitals and the scientists attached to hospital staffs are vitally interested in the continued use of animals in the work of our laboratories.

The Board of Trustees of the American Hospital Association, in session December 8, adopted the following resolution:

WHEREAS, anti-vivisection societies, who are well

organized and with ample funds at their disposal, have publicly announced that they are in a campaign to fight to the finish for passage of anti-vivisection legislation in 32 states and are having introduced in the various state legislatures laws prohibiting vivisection and in this manner destroying all opportunities for research through animal experimentation:

BE IT THEREFORE RESOLVED, That the Board of Trustees of the American Hospital Association join with other organized medical bodies in memorializing each hospital to have its medical staff oppose the passage of anti-vivisection bills as a serious threat to medical progress.

Our hospitals should enlist the interest of each member of their staffs and secure the active cooperation of the members of their Boards of Trustees in combating the proposed anti-vivisection legislation.

BULLETIN NO. 1

THE JOINT COMMITTEE OF THE NATIONAL HOSPITAL ASSOCIATIONS

JANUARY 1, 1935

THE JOINT COMMITTEE

OF THE NATIONAL HOSPITAL ASSOCIATION PRESENTS

The following draft of a letter in the interests of hospitals and requests that the president of the Board of Trustees, or the Superintendent of your hospital, send this letter with such additional information as may further apply to your hospital to the following legislators:

1. To the two United Senators from your State.
2. To the members of congress from your congressional district, and to such other members of congress from your state as you may decide.
3. To the members of the state legislature from your district or county, and to other members of your state legislature.

The importance of sending this information from all hospitals to our senators and congressmen and state legislators cannot be overestimated. Uniform action and unified support by our hospitals will secure favorable consideration in all legislative matters affecting our institutions.

Congress and the state legislatures are now in session. It is very important that you send this letter forward promptly. This in the interest of your own hospital as well as all other hospitals.

THE JOINT COMMITTEE OF THE

NATIONAL HOSPITAL ASSOCIATIONS DRAFT OF PROPOSED LETTERS

U. S. Senators,
Members of Congress,
Members of your State Legislature:

Your duties in the Congress will present many problems requiring careful consideration. Those relating to relief will be fundamental. The federal government has undertaken to insure food and shelter. Provision for adequate medical care is equally essential. It is not yet made, although facilities are available through which it may be economically and efficiently provided.

For many years hospitals, great and small, throughout the country, have provided for the destitute sick with the generous co-operation of physicians

*From the Bulletin of The American Hospital Association, Vol. 9, No. 1, Jan., 1935.

and surgeons of their medical staffs. They are anxious to continue this service to the full extent of their ability. This is directly and imperatively limited by the amount of money available and in this regard they are now confronted with many new difficulties in the solution of which they seek to cooperate with, and ask the cooperation of, the Congress and the Federal Administration.

These difficulties, while founded on prevailing social conditions, are increased and complicated by legislation arising therefrom.

The number of patients unable to pay doctors has increased the number of visits to out-patient departments with an increase in the cost of service and of medicines and supplies dispensed. The number of patients unable to pay hospital bills has increased the number of free patients. On the other hand the number of patients paying in full has decreased. Manifestly, increased cost and decreased revenue!

With diminutions of income, contributions to hospitals have correspondingly decreased. Hospitals may no longer rely upon "Drives" in their communities to make good annual deficits created by the reception of indigent patients.

Emergencies resulting from motor accidents have increased the need of hospital service. Payment for these often unobtainable because of indigency of the patient and because either the victim or the person responsible for his injury are strangers to the community and disappear without payment for service rendered. Hospitals may not postpone care to insure payment for it.

The Government may obtain funds by taxation to meet demands for relief. Hospitals cannot. The situation is made worse for them; for taxation adds to the hospital burden by decreasing revenue and adding to cost. Although congress has adopted the wise policy of exempting charitable institutions from direct taxation they, nevertheless, indirectly suffer from taxes imposed upon other resources.

The increased tax upon incomes measurably reduces funds otherwise and hitherto available for charitable gifts. The increased estate tax diminishes the amount of residuary bequests, a common form of testamentary gifts to hospitals. Various forms of taxes on corporations cut down incomes from endowment funds and taxes on various commodities needed for hospital use increase their cost.

There is a provision that the process taxes do not apply to commodities supplied to hospitals to be used solely for the relief of the destitute. A strict interpretation of this provision has made it of little avail to hospitals, which are large consumers of products taxed under this law, especially cotton and wheat. It is obvious that products purchased for the use of nurses, employees, paying patients and for general housekeeping and medical supplies increase general hospital costs to the extent of the process tax and inevitably reduce the balance available for free service. Ultimately these taxes equivalently reduce the power of the hospital to serve the poor. No criticism is here implied. We are only stating difficulties impeding our relief work.

Hospitals do not seek government aid or exemption from taxes for themselves. They are trustees for the sick poor. For them they speak for they cannot lower efficiency of personnel or equipment to save

costs. Responsibility to the sick patient is too great. Personnel and equipment may not be efficiently maintained without payment of adequate wages and costs. Hospitals cannot live with a constantly increasing debt. Clearly they may accept patients unable to pay only to the limit of funds available for their care. Beyond this they must sadly refuse admission in spite of dire need and refer the case to Government authorities entrusted with the responsibility of relief.

Many of your colleagues will doubtless receive letters similar to this. Frankly it is written at the suggestion of our Hospital Association, for the difficulties we meet are universal throughout our country. Nevertheless we present the picture to you as a local one in the district which you represent and with confidence that you as our representative in Washington, will be particularly interested in our practical needs.

What may develop in future legislation we do not know. We are writing this in order that you may be informed when matters come before you affecting our ability to do our share of the great work of protecting the well-being of victims of the depression and we will be grateful if you will bear our problems in mind and if in doubt, consult with us or our representatives with regard to any congressional or administrative matter which may affect our interests.

(Signed) The President of Your Board of Trustees

or

The Superintendent of Your Hospital

REPORT OF LEGISLATIVE ACTIVITIES AMERICAN HOSPITAL ASSOCIATION BULLETIN NO. 1, January 9, 1935 GOVERNORS' MESSAGES

The messages to their respective legislatures of the Governors of the following States have been reviewed: Maine, New Hampshire, Nebraska, Delaware, Missouri.

In only one of these messages has any mention been made of hospital and medical care for indigent patients.

The Honorable Louis J. Brann, Governor of the State of Maine, calls the attention to the fact that "in none of the existing laws has any provision been made for medical and hospital care for the indigent."

BILLS INTRODUCED INTO CONGRESS

H. R. 43

Introduced by Mr. Rudd, N. Y., and referred to the Committee on the Post Office and Post Roads: Authorizing and directing the Secretary of the Treasury to "provide that employees of the Postal Service suffering from tuberculosis, nervous diseases, or kindred occupational ailments be given hospitalization by the United States Public Health Service and hospitals and sanatoria now conducted by the United States Veterans Administration without cost to the stricken employee."

H. R. 50

Introduced by Mr. Rudd, N. Y., and referred to the Committee on Immigration and Naturalization, amending the Immigration Act, as follows:

"F. Nuns, deaconesses, sisters of any recognized order of any religious denomination may enter the United States as teachers in parochial schools, nurses in hospitals, and for services in any institution of a

charitable nature after the passage of this Act."

H. R. 150

Introduced by Mr. Cochran, Mo., and referred to the Committee on Banking and Currency: authorizing and empowering the Reconstruction Finance Corporation "to make loans under the Reconstruction Finance Corporation Act, as amended, to any public or private hospital organized under the laws of any State upon the same terms and conditions, and subject to the same limitations, as are applicable in the case of loans to financial institutions specified in Section 5 of such Act, as amended."

H. R. 174

Introduced by Mr. Reece, Tenn., and referred to the Committee on World War Veterans' Legislation, providing:

"That any veteran of any war who was not dishonorably discharged, who is in need of hospitalization, and is able to defray the expense therefor, may be furnished hospitalization, in any Veterans Administration Facility within the limitations existing in such facilities, upon paying a per diem fee in an amount equal to the average cost of hospitalization per patient day at the facility for the month previous."

H. R. 1425

Introduced by Mr. Woodruff, Mich., and referred to the Ways and Means Committee of the House:

"To amend title No. 3 of the National Prohibition Act, as amended, with respect to the issuance of tax-free alcohol to clinics, etc., for their use but not for sale."

LEGISLATIVE REFERENCE COMMITTEE
of the

AMERICAN HOSPITAL ASSOCIATION

A. M. Calvin, Chairman.

Bert W. Caldwell, M.D.,
Executive Secretary

Passage of Blood From the Colon

HENRY G. RUDNER, M.D., F.A.C.P.

Assistant Professor of Medicine, University of
Tennessee, Medical Department

The passage of blood from the rectum may be most dramatic and often is of ominous clinical significance. It is a symptom that is most frequently neglected. The greatest handicap in the diagnosis and treatment of gastro-intestinal diseases is the tendency of both physician and layman to ascribe bleeding from the bowel entirely to internal hemorrhoids. Just as all too frequently abdominal distress is ascribed to colitis. The symptom of bleeding from the bowel is one of the most singly important symptoms in the study of gastro-intestinal disturbances, and when present, should call forth every effort by the physician and the employment of all aids in his diagnostic armamentarium.

Acute bleeding from the bowel arouses three grave suspicions. (1) Ulceration, (2) malignancy, and (3) blood dyscrasia. Every physician visualizes this dramatic picture when confronted with hemorrhage from the bowel associated with minimum symptomatology. The passage of red, or unaltered blood, is associated with bleeding from the lower portion of the intestinal tract. Here, the color of discharge is dependent upon the rapidity of passage through the bowel. This is so often seen in bleeding typhoid ulcers,

bleeding of chronic ulcerative colitis, amoebic colitis, and less commonly, of tubercular colitis.

The passage of small quantities of unaltered blood is the most common type of bleeding with which we are confronted. It is the type most often accepted, by patient and doctor, casually, and considered of no serious importance. In the great majority of cases, this type of bleeding is due to internal hemorrhoids, fissures, anal infections and anal ulcers, or to small benign long pedicled polyps. However, it is not unusual that these simple fissures, and especially internal hemorrhoids, are merely incidental and are playing no part in the bleeding; whereupon, we are shocked to find, three to eight inches up in the recto-sigmoid, a carcinoma. Obviously, it behooves us all not to stop with the finding of a small benign condition, but to consider all the causes of bleeding from the bowel before attributing the cause of the passage of blood to internal hemorrhoids fissure.

The study of symptoms and signs of diseases of the colon proves how constantly the evidence of one disease is duplicated by another. For example, in a recent study of 1000 cases of hemorrhoids, Malmgren found that bleeding occurred in 72.9% cases. But also, in a review of a series of cases of benign rectal stricture, bleeding was reported to have occurred in 71.3%. In another review of 1937 cases of carcinoma of rectum and sigmoid; it was found that 84% of the patients complained of bleeding from the bowel. It is also estimated that at least 60% of patients with carcinoma have associated internal hemorrhoids. The fact that hemorrhoids usually bleed early and that in the case of carcinoma, blood does not appear until the lesion has involved and broken through the mucous membrane of the bowel, is worthy of serious consideration. Many malignant lesions of the rectum and sigmoid have their origin in the outer wall of the bowel; many of them are of the scirrhus type and will not break through the mucous membranes early, but by their pressure produce bleeding secondary internal hemorrhoids.

The discharge of a large quantity of altered blood is true melena and occurs when bleeding is high up in the intestine. The stools are tarry and viscid due to the presence of blood which has been altered in its downward passage through the intestinal tract. About 80% of these cases are associated with intrinsic pathology of the stomach or duodenum.

The most common cause of occult bleeding is oozing from a peptic ulcer. Again, carcinoma of the proximal colon and caecum give no other early diagnostic findings outside of occult blood in the stool until obstruction occurs resulting from the classical symptom complex of carcinoma of the colon. A similar picture is presented in carcinoma of the small intestine, and here again, disease is rarely, if ever, recognized until symptoms of obstruction arise. The passage of altered blood associated with oesophageal varices associated with cirrhosis of the liver and intra-hepatic pathology are indeed uncommon and practically always are associated with hematemesis. The gastro always are associated with hematemesis. The gastro intestinal bleeding associated with gall bladder disease, although a disputed entity, in my opinion, does occur; but, probably belongs rightfully to simple ulcerations of the gastro-intestinal tract associated with local infections as Rheyfous' disease. This condi-

tion is frequently seen with focal infection of mouth and nasopharynx producing simple ulcers of stomach and small intestines and typical chronic ulcerative colitis with the passage of blood in the stool. This condition clears up miraculously after the removal of the foci of infection.

Because of the multiplicity of possibilities in considering causes of gastro-intestinal hemorrhage, the search to explain the cause of melena will never cease to have its uncertainties. As a result of studies of large numbers of patients with gastric and duodenal ulcers, it is estimated that there is gross bleeding in the course of the disease in from ten to twenty-five percent of such cases. Bleeding of gastric ulcer occurs frequently and tests for occult blood in the stool, will, in the majority of cases, be positive. However, in another group, the bleeding of peptic ulcer occurs in the form of extensive gastro-intestinal evidenced by marked secondary anemia and several days of tarry stools. Certainly, the group of peptic ulcers that have been definite symptoms associated with silent bleeding comprise a great majority of the cases. It is true that a number of these cases show no X-ray evidence of duodenal ulcer or duodenitis and it is probably this lack of evidence which accounts for the placing of so many of these cases of intestinal bleeding in the indeterminate or unexplained group. Thus, these cases of melena probably remain unexplained until a very severe hemorrhage occurs, transfusions given, or probably an operation of necessity performed and a peptic ulcer found.

Benign tumors of the stomach myomas, fibromas and polyps sometimes account for the appearance of melena. Quite often secondary anemias due to benign tumors of the stomach are so severe as to suggest primary anemia. The ratio of benign to malignant tumors of the stomach is 1 to 200.

Lesions of the small bowel causing melena usually attract no attention until the symptoms of obstruction occur. Nevertheless, the melena exists and the diagnosis is practically impossible from an X-ray standpoint. The original lesion may be fibroma, fibrosarcoma, pedunculated lipoma of the jejunum, or ulcers of the ileum associated with extension of a chronic ulcerative colitis.

Since the advent of the proctoscope and sigmoidoscope and the newer methods of roentgen study of the colon, errors in diagnosis of diseases of the colon are practically nil. Diagnosis of diverticulosis, polyps of the colon, chronic ulcerative colitis, strictures and carcinoma of the colon are readily made. Carcinoma of the colon and rectum is a condition which cannot be too frequently emphasized in medical literature. Mainly due to the fact that early symptoms are by no means tangible, these patients have vague, indefinite symptoms six months to a year before seeking advice. By all means, this condition should be recognized early because it is only at this time that the newer methods of surgical attack can be instituted with any degree of safety and cure.

The various other conditions associated with anorectal bleeding are legion, such as, internal hemorrhoids, fissure in ano and proctitis. These are easily recognized by the use of the anoscope. Chronic ulcerative colitis, although not very common, is readily recognized by the use of the proctoscope. These ulcers are considerably different from the ulcers of

amoebic dysentery and there is a tendency of cicatrization. Blood in the stools associated with abdominal pain in the young is seen in intussusception. Polyposis as a cause of blood in the stool is readily recognized with the proctoscope. This is again very frequent in the young. The presence of blood in the stool associated with ankylostomiasis (hook-worm disease) is common and examination of the stool is diagnostic.

Fecal impaction quite often accounts for blood in the stool due to laceration of the mucosa and hemorrhagic proctitis. This diagnosis is made by digital examination. Condylomata when occurring in the anal canal, often degenerates into superficial ulcers resulting with blood in the stools. Papillary varicosities of the anal canal may be a constant source of bleeding which is augmented by defecation. Bleeding from the bowel is the earliest symptom of thrombopenic disease (purpura hemorrhagica) especially Henoch's purpura. The melena may occur during an attack of abdominal colic with diarrhea or constipation and this condition may closely resemble intussusception, mesenteric thromboses or appendicitis. After thorough observation, a purpura nodosum or purpura hemorrhagica will present itself.

To be sure, melena in the stools can occur in probably one of 200 or more conditions. It may occur in leukemia, anemias, acute yellow atrophy of the liver, the various infestations, the various arsenical poisoning and chronic nephritis. Of late, there have been reports of occult blood in the stool following the handling of the volatile hydrocarbons, such as benzene and gasoline, especially in those working in refineries. Nevertheless, these are not the most usual causes of passages of blood in the stool and it is only a matter of differential diagnosis in presenting these other possibilities.

It is rarely possible, in dealing with a patient whose chief complaint is the passage of blood in the stool, to learn much more about his condition by questioning. Nevertheless, the busy physician or surgeon, because of the pressure of work, quite often treats symptoms without having made the diagnosis. Of all the diseases of the body, this careless habit applies most frequently to those of anus, rectum and colon. It would be well to assume that an adult patient who makes a complaint of bloody stools from the second to the sixth decade has a carcinoma of the colon until it is proven that he does not have a carcinoma of the colon. This is an invaluable criterion throughout ones daily practice. A negative finding is worth the time spent and the patient himself will be most grateful.

In conclusion, an adequate investigation with equipment now available to all physicians, at very little cost, is most necessary. One would not make a diagnosis of tonsillitis without looking into the throat, or of a choked disc without the use of an ophthalmoscope, nor of a cardiac lesion without the use of a stethoscope. So then, one should strive for the same accuracy in dealing with bleeding from the bowel and with the same conscientious endeavor, omit none of the aids to diagnosis in attempting to discover the cause of this bleeding. The anoscope, the proctoscope and sigmoidoscope are here invaluable in attaining accuracy of diagnosis.



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Standard "A" Grade College

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Exceptional faculty of experts trained in the best colleges, universities, and conservatories of America and Europe. Special advantages in piano, pipe organ, violin, voice culture, expression, home economics, art.

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THE NEW FENWICK SANITARIUM

Nervous and Mild Mental Disorders and Drug and Liquor Addictions
COVINGTON, LOUISIANA

OVER FORTY-THREE YEARS OF SUCCESSFUL OPERATION

Doctor, we wish to call your attention to the merits and claims of the above named Institution, especially for Nervous and Mild Mental Disorders—for Drug and Liquor Addictions and Infirmities of Old Age.

This Institution is true to organized medicine and its principles.

It is registered by the American Medical Association.

It is a member of the American Hospital Association.

It is a member of the State Hospital Association.

It is a member of the National Association of Private Psychiatric Hospitals.

The staff of physicians of this Institution are all members or Fellows of the American Medical Association and its subordinate societies. They are physicians, who after having graduated in medicine, have had the best of medical training in the large graduate schools of medicine and hospitals of the East and are especially prepared for their respective specialties. These physicians give their entire time to the patients in the sanitarium doing no outside work.

Its clinical and pathological laboratory is complete and under the supervision of two of the best pathologists in New Orleans.

Correct diagnosis is the key note for the New Fenwick Sanitarium—no half way, and haphazard diagnosis is made here.

The methods of examination are most thorough. Each patient is given a complete Mental, Neurological and Physical examination including all laboratory examinations. Treatment is individual for each according to indications.

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The New Fenwick Sanitarium is noted for the individual attention given each patient among pleasant and home-like environments.

This Institution prides itself on the character of nourishment and diet furnished the patients, not only at meal time but otherwise.

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In the last forty-three years, it has studied and treated many Liquor and Drug Addicts.

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This Institution is patronized by the better class of people. Its services are offered to the discriminating physicians for the type of patients named above as a high class Institution in every sense and meaning of the word.

It is located in Covington, Louisiana, a section so noted for its health qualities, and is easily accessible by concrete highways, railroads and water routes. It is only one hour and a half by automobile from the center of New Orleans.

THE MISSISSIPPI DOCTOR

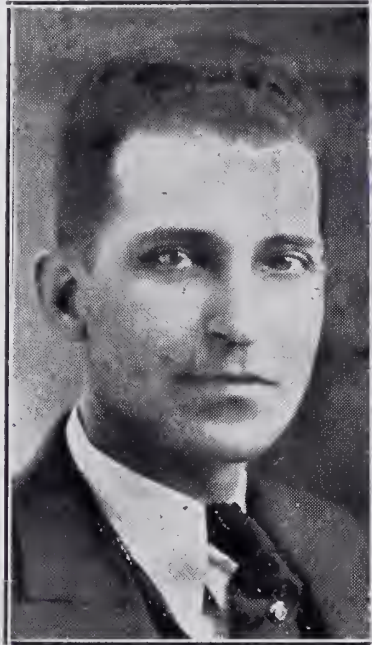
OFFICIAL ORGAN

MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

VOL. 12

BOONEVILLE, MISSISSIPPI, MARCH, 1935

NO. 10



DR. H. KING WADE
President Mid-South Post Graduate
Medical Assembly

Education promotes peace by teaching men the realities of life and the obligations which are involved in the very existence of society; it promotes intellectual development, not only by training the individual intellect, but by sifting out from the masses of ordinary or inferior capacities, those who are competent to increase the general welfare by occupying higher positions; and, lastly, it promotes morality and refinement, by teaching men to discipline themselves, and by leading them to see that the highest, as it is the only permanent, content is to be attained, not by groveling in the rank and steaming valleys of sense, but by continual striving towards those high peaks, where, resting in eternal calm, reason discerns the undefined but bright ideal of the highest Good—"a cloud by day, a pillar of fire by night."—Thomas Huxley.



The "Continental" Breakfast is not suitable for a growing child

In far too many homes, a breakfast of a roll and a cup of coffee is the fare for children as well as adults. Woefully deficient in vitamins and minerals, such a meal furnishes little more than a small amount of calories. A dish of Pablum and milk, however, is just as easily prepared as a "continental breakfast," but furnishes a variety of minerals (calcium, phosphorus, iron, and copper) and vitamins (A, B, G, and E) not found so abundantly in any other cereal or breadstuff.

The addition of a glass of orange juice and one Mead's Capsule of Viosterol in Halibut Liver Oil can easily build up this simple breakfast into a nourishing meal for the children of the family as well as the adult members. It is within the physician's province to inquire into and advise upon such matters, especially since Mead Products are never advertised to the public. *Servamus Fidem*, "We Are Keeping the Faith."

Pablum (Mead's Cereal pre-cooked) is a palatable cereal enriched with vitamin- and mineral-containing foods, consisting of wheatmeal, oatmeal, cornmeal, wheat embryo, alfalfa leaf, beef bone, brewers' yeast, iron salt, sodium chloride.

Please send professional card to Mead Johnson & Co., Evansville, Indiana, U.S.A., when requesting samples of Mead Products to cooperate in preventing their reaching unauthorized persons.

THE WALLACE SANITARIUM

MEMPHIS, TENN.

WALTER R. WALLACE, M. D.

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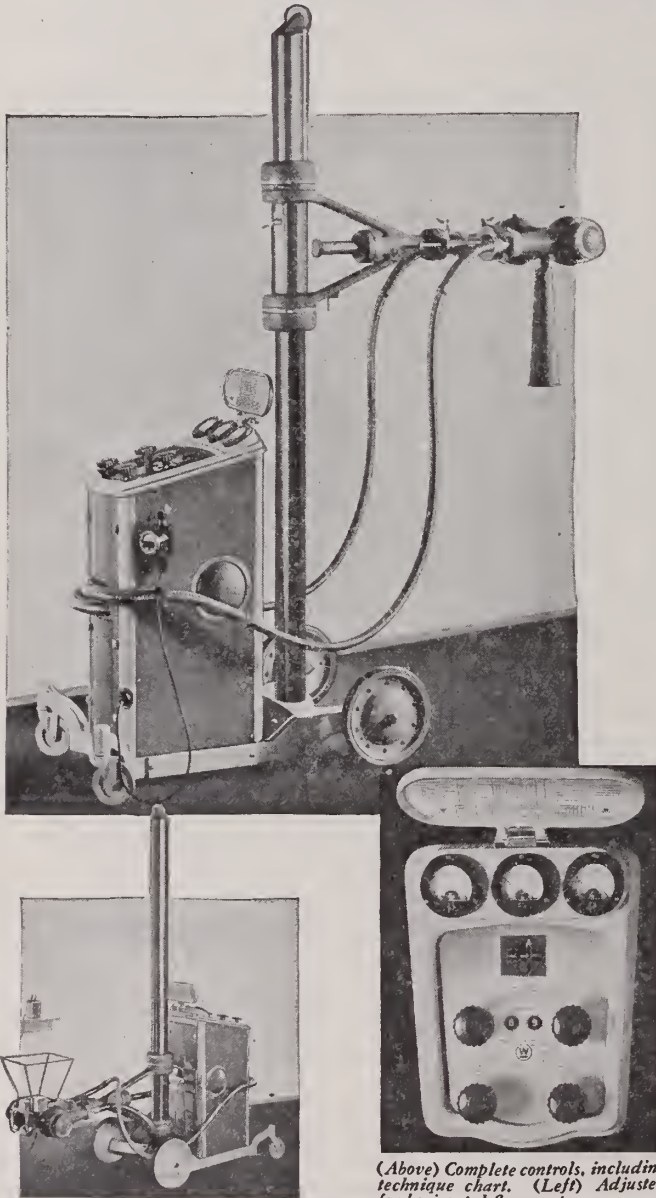


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Located in the eastern suburbs of the city at South-
ern Ave., and Cherry Road.

Everything that could be done
has been done to make this
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(Above) Complete controls, including technique chart. (Left) Adjusted for horizontal fluoroscopy.

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Capacity 10 Ma. at 89 K.V.C.—this high capacity permitting the use of standard techniques at standard distances, avoiding distortion in films.

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Medical Arts Building, Memphis, Tenn.

Please send me complete information regarding the new Shock-Proof Mobile X-Ray Unit.

_____.M.D.

The Mississippi Doctor

The Journal with a vision, the delivery of modern medicine to the masses at less cost to the individual and more profit to the practitioner. The champion of the small hospital, the hub around which this service must be built.

—Subscription Price, One Dollar A Year—

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MRS. W. H. ANDERSON, Assistant Editor

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Entered as second-class matter, January 18, 1926,
at the post-office at Booneville, Miss., under
the Act of March 3, 1870.

EDITORIAL

The Mississippi Doctor went out five thousand strong in February in the interest of the Mid-South. It did the same last year. Had this advertising been paid for it would cost several hundred dollars. Not one penny was asked for. The Mississippi Doctor will publish all the papers read before the association if at all available. It will publish not less than twenty-five others from the pens of the best men in the Mid-South and others. It also publishes medical news and discusses medical problems in the editorial columns. It publishes practical papers from the rank and file of the profession out in the small town and rural community. All this will be delivered to you for only one dollar.

There is no question about the importance of laboratory tests when they are accurate. The practice of medicine is the practice of details. Laboratory tests are worthless unless the minutest details are carried out with precision. In this issue you will read the paper of Dr. M. Pinson Neal with much profit. This paper touched deeply the interest of every one of the several hundred who heard it at the Mid-South. You will want to keep this paper, read and re-read it. It is time to quit disparaging laboratory reports and to see that they are done accurately, then accord them their rightful importance.

You will note the ad of Gwinner-Mercere describing the PORTABLE OH-BEE BED invented by Dr. L. L. Gilbert. The bed is described and its advantages pointed out. Gwinner-Mercere is the old reliable for the Mid-South. No field in the practice of medicine has been neglected so much as that of obstetrics in the small town and rural community. This should be a big boon to better obstetrics out on the commercial firing lines. The field of preventive surgery is a big one. The field of obstetrics offers the biggest results, the biggest opportunities. Lacerations should be repaired at the time they are received. The results should be as good if not better, and it saves the patient much discomfort and expense. We congratulate Dr. Gilbert on his invention. We are glad that Gwinner-Mercere is helping to place this table in the hand of the physicians. The mothers of this country need the help this table can give.

You will note the ad of the Surgical & Dental Repair Shop in this issue. Roy O. Baker is the manager. This is a fine piece of service. Suppose the doctor dies as they are doing rapidly. The wife has equipment on hand. Mr. Baker will take this, put it in his shop and sell it for her on a reasonable commission. You have something that you do not need. The other man needs it. You get it at a reasonable price. The one who sells gets something when he would get nothing. When you are in Memphis it will pay you to look things over in this shop. If you have something that needs repairing, carry it along.

Read the tribute to Dr. Burdine by Dr. G. S. Bryan. Dr. Burdine will be greatly missed by our society. He was a man of brilliant intellect and possessed many other admirable qualities. We loved his fellowship.

Dr. W. W. Harper of Selmer, Ala., was a very attentive attendant of the Mid-South at its last meeting. He is secretary of the Association of the Southern Railway Surgeons. He is a leader in the medical profession. He is broadly educated and he is thoroughly schooled in scientific practice. We hope he will come back and bring fifty or a hundred good men along.

A yearly examination carefully made and fully recorded is very important. It is well to know what a man's normal blood pressure is, his normal blood count, what percent neutrophils, his normal pulse rate. It is well to know whether the female had sugar in the urine before she became pregnant. We must begin the study of the individual in health if we are to be of greater service to him when he is sick. It is just as important to know the individual in health if we are to be of greater service to him when he is sick. It is just as important to know the individual human organism as it is to know the bacteria that threatens his life.

Please note the ad of the Bilhmer-Knoll Corporation in this issue of the Journal. This is a brand new ad beginning with this month. You will recall them pleasantly at the meeting of the Mid-South last month. Read what they have to say and keep them in mind. We greatly appreciate this ad. It also indicates that the big men in the medical advertising field have come to appreciate the services of The Mississippi Doctor.

Please note the card of the Three Musketeers Book Shop. Peabody Hotel. Memphis. Tenn. "Reading makes a ready man." The physician needs to be the most broadly educated man of any profession. You will find books in this delightful little shop that you need to read and that you will want. The history of Bedford Forest is one that every person in the Mid-South should read. Use this book shop.

Dr. W. F. Shipp, of Lorena, Texas, was one of the rich and rare characters who attended the Mid-South last month for the first time. He moved to the Lone Star State sixty three years ago from Arkansas. He drinks deep from the fountain of human philosophy. He knows plenty of practical medicine. He knows much interesting history of Texas. It was a great treat to talk to him. We hope he comes back again.

The exhibitors have played a fine part in making the Mid-South what it is now. They have helped to finance it and they have talked it up and told the doctors about the fine program. Everything else being equal it would be nice for members of this association to do a large part of their buying from these companies.

Gratitude is one of the noblest traits of character that any man can possess. Doctors should have a nice size portion of this needed qualification, even a Medical society should have a supply on hand always.

Medical economics is a right interesting little journal, but it is not spending its own money to help solve any of our medical problems as far as we know.

The Mississippi Doctor is the official organ of the Mid-South. It was adopted a year ago for an indefinite time. It went out five thousand strong last year and again in this year in the interest of the Mid-South. It publishes all the papers read before the association, every one available. It will publish nearly all of them this year within the first four months. It publishes papers from the practitioner out on the commercial firing lines and it will run about thirty papers this year from the very best medical talent in the Mid-South. It will have a number of papers on a number of different medical problems during the year. It discusses these problems in its editorial columns. It tries to bring you the practical side of the practice of medicine, and it informs you on the latest discoveries and gives the last word by the outstanding specialists. It is the champion of the community hospital. It is trying to show the importance of the decentralization of the medical profession. It is emphasizing the value of affiliation of the small hospital with the large, with medical centers. Its greatest desire is to see modern medicine delivered to the masses at a cost at which it may be utilized and further it is anxious to see the rank and file in the medical profession receive more pay for their work which they so richly deserve. The subscription price of The Mississippi Doctor is only one dollar. It was planned at the meeting this year to put the papers of the Mid-South in book form. Ransom and Sansom of Memphis are to publish the book. If you want it send two dollars. If you want the journal and the book you may have both for two dollars and fifty cents.

The more times Dr. Kolmer appear on the program of the Mid-South, the more people he draws to hear him. He is a great scientist. His work is monumental and outstanding. The medical profession owes him a great debt. His sincerity is impressive, he is ever in search of new medical truth, his findings are the last word on the subject. He is with Temple University, Philadelphia. This is the school founded by Russell H. Conwell, that far-seeing benefactor of man. He wrote acres of Diamonds, Each man his own University, Why Lincoln Laughed, John Wanamaker as a business man, et al. In his later days his income was a quarter of a million dollars a year it is said and he gave it all in the interest of education and to help poor boys and girls. Temple University does not have marble floors nor gold door knobs but it has a great investment in men and laboratory equipment the essentials for a great medical school. No doubt the great Conwell is smiling from behind the clouds at the great service Dr. Kolmer is doing through this great university.

Dr. Roy Keith and his fine wife of Anna, Ill., attend the Mid-South just as constantly as the sun rises. Dr. Keith hears every paper and he gets the "meat" out of them. He is a great believer in the Mid-South Post Graduate Medical Assembly. He tells others about it.

The Mississippi State Medical Association will meet this year on the Gulf Coast. The time is May. It will be delightful down there. Make your plans now to attend.

The Mid-South had an enrollment of nearly twelve hundred at its last meeting. This is the largest yet. It was a fine program that was presented. Dr. P. W. Rowland presided with profound efficiency. He is graceful, dignified, commanding in appearance and he knows all the presiding "etiquette." The program committee and the secretary are to be congratulated. The Mid-South is rendering a fine service to the profession of this territory.

Mr. Lee, the door-keeper at the Mid-South as little as you might think is a fine asset to the association. No man enters the halls of this assembly except by "the sheep fold." His face is equal to a thousand soldiers. His smile and his good cheer does you good like a medicine. Without him the atmosphere at the Mid-South would not be nearly so good as it is.

Dr. Gilbert Levy deserves much credit for the service he is rendering the association in securing such a fine list of exhibitors. The exhibitors help to finance the association and they are great boosters for it. We appreciate them.

Dr. V. B. Philpot, of Houston, Miss., stepped off in fast Surgical Society by appearing on the program of the South Eastern Surgical Congress which met down in Jacksonville, Florida last week. He was no doubt equal to the occasion.

Dr. H. King Wade, Hot Springs, President of the Mid-South Post Graduate Medical Assembly, is courteous, courtly, affable and able, and an outstanding leader in organized medicine.

The Funeral Service Home of Ripley is calling your attention to the service they are offering. It is certainly a credit to the town of Ripley and Tippah County. Keep them in mind if they can serve you.

Some doctors get the idea that to publish a medical journal is dead easy.

The attendance at the Mid-South reached nearly twelve hundred. This was fine. The program was fine. It brings a fine opportunity to the profession of this section.

Read the paper of Dr. Neal and renew your interest in the importance of blood counts.

Dr. Longcope is giving you a profound dissertation of septic infection. The streptococcus is with us always. He is the stubborn enemy of man.

Read the masterly address of President Rowland and study its contents. It is dealing with a great problem just at this time.

You will note the ad of the Jackson Daily News in this issue of the journal. It is Mississippi's wide awake daily. You need it if you live in this or an adjoining state.

Program

NORTHEAST MISSISSIPPI THIRTEEN COUNTIES MEDICAL SOCIETY

CLAY COUNTY COURT HOUSE
WEST POINT, MISS.

TUESDAY, MARCH 19, 1935, 1:30 p. m.

Meeting Called to Order Pres. S. R. Deanes
Invocation Dr. L. E. Sellers
Pastor First Methodist Church

Reading and Adoption Minutes Last Meeting.

"Eclampsia" Dr. A. G. LeRoy, Booneville

Discussion by Drs. J. W. Lipscomb Jr., and J. E. Ellis

"A consideration of some of our Common Eye Conditions" Dr. N. S. Dickson, Aberdeen

Discussion by Drs. G. G. Armstrong and L. W. Dotson

"Advisability of early Drainage of Acute Gall-Bladder"

Dr. Eugene Johnson, Memphis
"Our Mississippi Hospitals"

Dr. Leon S. Lippincott, Vicksburg

Mrs. Lippincott, President of our State Medical Auxillary is to be at West Point on the same date to discuss plans for the general organization of a Medical Auxillary in the 13 County Medical Society. She is asking that all doctors bring their wives.

The doctors of West Point and Clay County are inviting all to attend their supper at 6:00 o'clock.

Book Review

Frontiers of Medicine by Morris Fishbein, M.D., Editor, Journal American Medical Association and Hygeia, the Health Magazine.

This little book gives us a very interesting history of Medicine and medical news, beginning with the time of Hippocrates about 300 B. C. No doubt most of us have read some of Dr. Fishbein's writings. You will not be disappointed either, in this book as it is written in his usual interesting and very entertaining style. Don't fail to read this book if you want a good review of medical history including the lives of the outstanding Pioneers of medicine.

Published by the William & Wilkins Company, Baltimore, Md. Price \$1.00.

Through the generosity of the American Red Cross, the children of the recently flooded counties in northwest Mississippi will be given toxoid for the prevention of diphtheria. At a conference with Dr. William DeKleine of the American Red Cross who recently visited the flooded area, arrangements were completed for the immunization program of all children under ten years of age in these flooded counties.

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The Leucocyte Blood Picture as an Index to Infection and Resistance*



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Virchow, with his masterful work, 'Cellular Pathology,' in 1858, laid the foundation for modern pathology, for cell studies and their correlations. Sadler¹, in 1892, and Cabot², in 1894, noted that a leucocytosis was generally, though not invariably, found in exudative diseases, with the exception of tuberculosis. Wilson³, in 1901, called attention to the frequent association of a neutrophil value of over 80 per cent in suppurative conditions. Little use, however, was made of the differential estimation until Sondern⁴, in 1905, voiced the opinion that the degree of leucocytosis indicated the amount of body resistance and the degree of the neutrophil increase constituted an index to the severity of the inflammatory process, while the most important point both in the diagnosis and prognosis is the relationship between these two.

It is surprising, disappointing, and one might say amusing, were it not often so vital to the patient, to see the confusion, the uncertainty, and the unfamiliarity with which the blood count is used even today,

when Sondern so clearly stated the case 30 years ago. The simplest principles are commonly overlooked, ignored, or cast aside by those who neither know nor use them as they should be used yet searching for something new. Often the newer applications are so tied up in formulae and minutia of detail in their use that they cannot be interpreted by either the practitioner or the usual laboratory worker. This is a field in medicine where a return to basic principles and their application is much in need.

It is not uncommon to hear a prominent surgeon or internist remark, "The leucocyte count is of no value;" or "The leucocyte count, if that means anything." A number of standard textbooks in medicine carry similar backhanded statements. Can one then wonder at the "Babes in the Woods" attitude of the younger generation in medicine and of those who follow such teachings of these who are set up as masters? A procedure as valuable and as dependable as this should not be condemned until it has been proved under similar fixed conditions of experiment to fail in the things that are claimed for it.

ERRORS COMMONLY COMMITTED. The leucocyte count as a diagnostic armamentarium has met with unwarranted criticism through one of five factors:

1. Being performed by indifferent or inadequately trained, incompetent individuals who may be physicians, technicians, nurses, or office girls. We have found supposedly well trained physicians counting 25 white blood cells and multiplying the individual numbers by four, and recording this as the percentage of leucocytes.
2. The acceptance of a single count as being always conclusive or even diagnostic.
3. Improper interpretation, use of the total cell count as an index to infection.
4. The self-abiding sin of many physicians is their satisfaction with the total count. This is a job scarcely begun and one beset with danger, for though its use alone an otherwise good clinical judgment may be misdirected.
5. The clinical picture, the surgical findings and the blood picture are not considered in the light reflected by gross and histopathology. Often the true lesion, the one responsible for the blood findings, is overlooked at the time, though may become obvious at a later period, or may not be found unless there is a searching necropsy in those cases that are fatal.

OBJECTS AND PROCEDURE. With the view of (1) obtaining confirmation of what we teach, (2) if possible to remove some of the questionable attitude and discredit from this dependable diagnostic and prognostic aid, and (3) to determine certain other factors, Dudley A. Robnett, M.D., a colleague, and I, over 12 years ago, began an intensive study of this subject. This has been conducted under fixed conditions of experiment. No case has been considered un-

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less four conditions were met:

1. Tissue was available for the nearest absolute diagnosis existent, that of histopathology.

2. Total cell count made according to standard technique, counting the cells in at least 100 squares of the counting chamber.

3. Differential percentages obtained from a 300 cell count, often more, never less.

4. The blood counts must have been made near enough to the time of the tissue removal that the count and tissue findings could be properly correlated.

Neither a magician nor a supertrained physician is required to perform a reliable blood count, but meticulous care must be given to every detail, and the individual doing it must know the why and the how.

GENERAL PRINCIPLES. Before taking up the theme in detail, the general principles in which emphatic belief is held should be stated:

Blood counts and other morphologic blood studies are identical with the histologic examination of fixed tissues, and are therefore not for the untrained and inexperienced to make final interpretations upon. To carry the comparison further, the cells characteristically seen in the local reaction in disease, as in pyogenic infections, like carbuncles and pneumonia; in syphilis, typhoid fever and the leukemias, are the cells that cause the modification in the blood picture in such diseases. This modification is shown in the differential cell percentages. Normally the neutrophils, in fact none of the blood cells, are found in tissues except in those where they originate, as lymphocytes in lymphoid structures, and the granular leucocytes in bone marrow. It is at least surprising

that physicians after a minimum of 4 years of painful and intensive training, much of it in laboratory procedures, are willing to accept on their laboratory problems the interpretations of someone who has had only a few week's preparation, and who often has had less than a high school education.

Properly performed and interpreted leucocyte studies constitute a means to the saving of lives, shortening of hospital confinement, diminishing of unnecessary suffering and in the prevention of needless operations. In acute surgical conditions, as appendicitis, one of the greatest factors in the patient's recovery is for the surgeon to operate early and remove the lesion while it is yet local and circumscribed, as a means of preventing such complications as perforation, peritonitis, hepatitis, and septicemia. The decision for this need of operation and its time can best be arrived at by such blood count interpretations.

Findings and conclusions should be based only upon a classification of the lesion arrived at by gross and histopathology wherever surgical or autopsy lesions are concerned. This method of diagnosis is the only one that approaches accuracy. We commonly enough encounter even operative surgical diagnoses of acute suppurative appendicitis to find on histologic examination a normal appendix or one which shows simple fibrosis. Blood counts on such cases are normal, or if abnormal, depend upon some other, and usually unrecognized, lesion in the body, as a pyelitis or pneumonia.

METHODS OF CHOICE AND INTERPRETATION. The methods of choice and their corresponding inter-

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pretations are:

1. The differential cell evaluation—a rise in neutrophils, or a high neutrophil percentage indicates pyogenic infection, with the degree, dose, and virulence of the infection being shown by the degree of rise or the height of the neutrophil per cent.

2. The septic factor (neutrophil-eosinophil ratio)—a supplementary index to the presence of pyogenic infection.

3. The estimation of young and immature neutrophils—a guide to pyogenic infection, and when increased in numbers, indicates hyperplasia of bone marrow meeting the call for additional leucocytes.

4. The total white cell count—an index to resistance.

5. Graphic method of recording total count and neutrophil percentage—demonstrating by a curve the degree of resistance as weighed against the infection.

THE DIFFERENTIAL LEUCOCYTE COUNT

A valuable lesson exists in the observation that neutrophils occur only in warm blooded animals⁵. This is due to the fact that pathogenic bacteria, especially the cocci, develop much more rapidly in the tissues of warm blooded animals than they do in cold blooded animals, if indeed some of them develop at all in the latter. This particular type cell, the neutrophil, then has been differentiated to defend the body against such bacteria. The phenomenon of leucocytosis in warm blooded animals and the exceeding rapidity of this occurrence has to do with their urgent need for protection. The absence of such leucocytosis, with the great decrease in neutrophils, as is seen in agranulocytosis, with the marked lack of resistance to pyogenic infections further emphasizes this observation.

A relative rise in all leucocytic elements of differential cell enumeration with a rise in the total cell count, practically never occurs except in anhydremia (hemoconcentration) and here the rising total red cell and platelet counts and hemoglobin values are corroborative findings.

THE NEUTROPHIL (POLYMORPHONUCLEAR NEUTROPHIL) VARIATIONS. While the normal is generally given as 60 to 70 per cent, we for purposes of interpretation in pyogenic diseases, recognize and use 75 per cent as the maximum of normal. Individuals in apparently good health not rarely yield values of 50 per cent or lower. Acute pyogenic infections cause a rise in the percentage of these cells. Their increase shows the presence of infection and the relative percentage increase indicates the intensity, degree, dose and virulence of the infecting agent. At the beginning of an acute infection, there occurs in the blood a mobilization of available mature neutrophils. Later these are reinforced by young or immature forms from a stimulated bone marrow. There is a period of time between the infection and the appearance of these young forms during which the only dependable finding is the rise in the percentage of neutrophils. The time required for marked changes in neutrophil values is almost unbelievably short in marked acute infections. We have repeatedly seen values of 55 to 65 per cent become 80 to 85 per cent in 3 hours, and 90 per cent in 4 to 6 hours after the onset of an acute appendicitis. Hourly changing neutrophil values should be convincing that the blood

picture is indicative only of conditions at the time the blood specimen is obtained.

Neutrophil values of 80 to 90 per cent are common in sharp, marked acute pyogenic infections⁵. We find in Table 1 an average of 86.10 per cent in 790 acute cases. Higher percentages are seen in the more severe cases and particularly where the peritoneum is involved. A value above 95 per cent is a bad omen. In general the relative percentage of neutrophils and the total count run parallel. The increase in neutrophils indicates the presence of infection, and a corresponding increase in total count shows a favorable reaction to the infection.

Great decreases in the neutrophil values, as occur following the administration to some individuals of large or repeated doses of arsenic, arsphenamine, and certain analgesic or hypnotic drugs, markedly lower the general resistance to pyogenic bacteria, and in fact, render the body highly vulnerable to any chance infection with virulent organisms. Necrotic, ulcerative, and even gangrenous lesions develop, and in these the neutrophils as reactive cells are scant or totally absent.

EOSINOPHILS (POLYMORPHONUCLEAR EOSINOPHILS). The customary 2 to 4 per cent is used as normal. An absence of eosinophils or a decrease in their percentage, associated with a rise in neutrophils, termed by Simon⁶, the septic factor, is a definite aid in deciding upon the presence or absence of pyogenic infection. The presence of the normal or of an increased percentage of eosinophils is a favorable indication that acute infection is absent. The falling eosinophil values in acute infection are often

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sharp from existing high percentages seen in bronchial asthma, and parasitic or skin diseases. An increase or the reappearance of eosinophils after a previous drop, or their disappearance, indicates the "dawn of convalescence," and is of great importance in prognosis. Their return in numbers to or above normal is a sure indication that the infection has been overcome or completely removed.

THE ESTIMATION AND RECORDING OF YOUNG AND IMMATURE CELLS. Arneth made the first effort to interpret young forms and place a clinical interpretation upon their significance. Von Schilling modified the Arneth index. Technical methods of both are unwieldy for practical purposes, often cause delay where intervention is needed, and are subject to wide discrepancies through factors of personal interpretation. Long before the Schilling count was introduced I used a more general method of determining young cells. Since blood cells studies correspond to the histologic study of fixed tissues, the measurements of immaturity have been the same as in tissue pathology, particularly in tumor diagnosis. We take into consideration the size of the cell and the nucleus, their ratio, the staining reaction of cytoplasm and nucleus, and whether the nucleus is nonlobated, as in myelocytes, merely indented, or definitely lobated. Recently the terms "segmented," or "nonsegmented" and "filamented" or "nonfilamented" are being used as descriptive of adult and mature (cells), or young and immature cells. In general, the interpretation of young cells versus adult cells has been limited to the polymorphonuclear neutrophils, where 90 to 95 per cent of the adult forms show two or more lobations. Myelocytes and myeloblasts must be recorded as such, for when present they indicate an added degree of gravity to the case of infection; or otherwise establish a diagnosis of leukemia.

Under normal conditions, irrespective of which of the above methods is used for their evaluation, the proportion between young and mature neutrophil forms is from 1 to 16 to 1 to 10, with the maximum limit being 1 to 5, which value is also considered normal for young children. A ratio of 1 to 3, or 1 to 1, indicates the presence of pyogenic infection, and the greater the number of the young forms, the more severe the condition. A proportion of one immature to one or less mature cells indicates marked severity.

One often sees 85 to 90 per cent values of neutrophils within 3 to 4 hours after the onset of an acute process, as appendicitis, and yet the ratio of young to mature cells is 1 to 8, or within the strict range of normal. In the very early stage of acute infections, mature neutrophils are drawn from the storage center in the bone marrow and may give in the transport system, that is, the blood, a neutrophil percentage of 85 or more, and yet maintain a ratio of the young or immature forms within the accepted limit of normal. This finding is often missed, because by the time a blood count is commonly made, several hours after the onset, young forms have increased. Where early and repeated counts are obtained, the estimation of the young and the immature forms has rarely been found necessary. However, it has been of value where single counts only were available and in cases of questionable findings.

VARIATIONS IN LYMPHOCYTE PERCENTAGES. In interpreting lymphocytic percentages, (normal 20

to 30 per cent) one must remember that their values are above normal in childhood, in the lymphatic leukemias, and the diseases associated with toxic manifestations such as syphilis, tuberculosis, toxic goiters, measles, whooping cough and typhoid fever. Lymphocytes are not phagocytic or protective in acute pyogenic infections. In fact, as the neutrophil percentage increases in streptococcic, pneumococcic, staphylococcic and meningococcic infections, the lymphocytes decrease, resulting in a lymphopenia. This has been used as the neutrophilic-lymphocytic index. As the acute process is removed or overcome, the neutrophils decrease and the lymphocytes increase to normal or above. This ratio or index is not as dependable as is the neutrophil-eosinophil index, because of the natural and often extreme variations in lymphocytic percentages under such variable and almost universal diseases as above cited.

THE TOTAL COUNT VARIATIONS AND INDICATIONS. (Normal 5,000 to 10,000 per cu. mm.) The total leucocyte count is normal or below in uncomplicated tuberculosis, typhoid fever, malaria, measles, influenza and agranulocytosis, diseases from which acute pyogenic lesions often are differentiated largely by the blood findings. A hyperleucocytosis occurs after hemorrhage, after injections of bacterial vaccines, during the late stages of pregnancy, in the puerperium, and in the leukemias, which are not conditions of pyogenic character.

Normal or subnormal total counts are often seen in highly virulent, massive, or very severe cases of infection, as peritonitis, pneumonia and septicemia, and in gangrenous or perforating lesions, as appendicitis. The total cell count is often little or not at all increased in cases of acute infection where there is little or no resistance on the part of the patient, and in those with slight infections.

These facts reveal the fallacy of relying upon total leucocyte counts in the diagnosis of infection and as a guide to operation, yet it is still used, and in many cases with little or no reference to the differential percentage. It is not uncommon to find hospitals with standing staff orders that the differential cell count need not be done when the total count is 10,000 or less. Note on Table 1 that 9.70 per cent of 790 acute surgical patients had total counts of 10,000 or less at the time of operation. We have seen patients held under observation because of total counts of 10,000 and less, and when an operation was finally performed there was found a ruptured or gangrenous lesion like an appendix, a peritonitis, or a spreading infection. Total counts depended upon to indicate infection are dangerous. They should be given no value except when considered with the differential count, and the two then weighed in conjunction with clinical findings.

The total leucocyte count is a guide to the resistance of the patient against infection in medical and surgical conditions. With a good resistance the total

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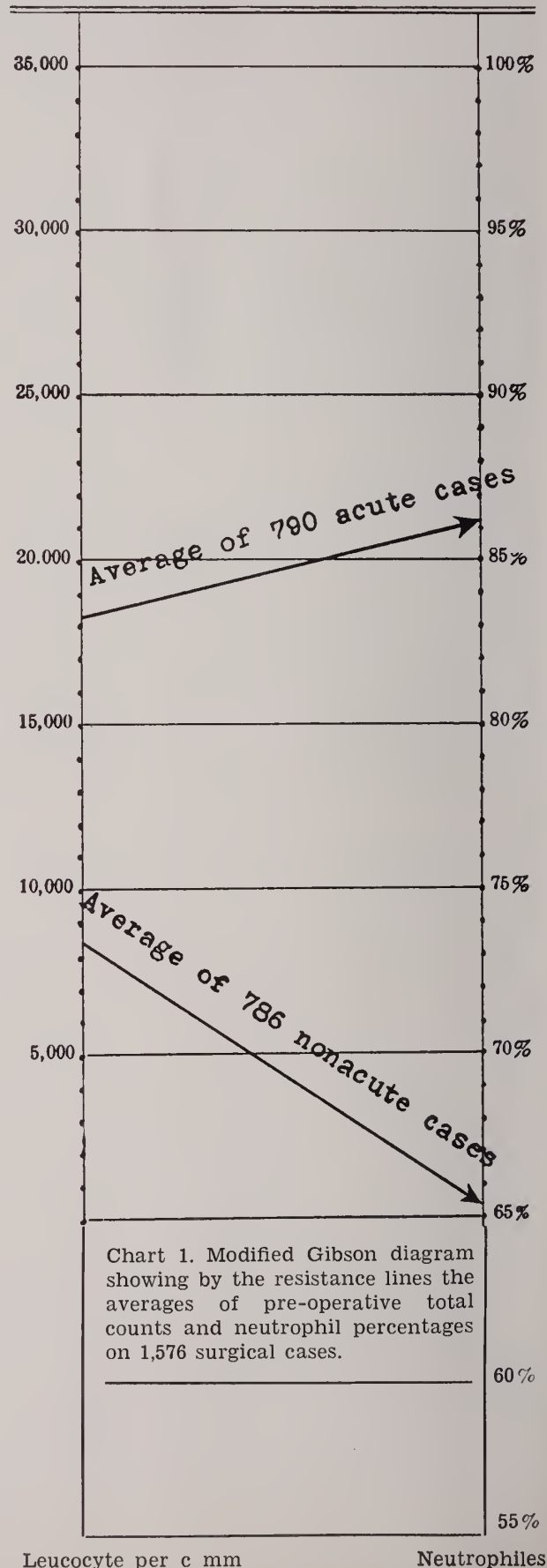
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count is high, and as long as the infection is present and the resistance remains good, and the count stays high. When the infection is removed or overcome, or (and here is where many improper interpretations are made) if resistance is broken or overwhelmed, the total count drops, often to normal values or below. It is far amiss as a criterion of infection in many cases, and often fails the patient and physician. One has many times seen and heard the statement, "The leucocyte count is of no value in determining the presence of an infection." We would accept and endorse to the last degree that statement if the words, "the TOTAL leucocyte count," rather than "THE leucocyte count" were used to open the statement. The attempt to interpret the leucocytic response in disease by the total count alone is never warranted.

From a high total leucocyte count without abatement of infection, there may occur a drop even to or below normal values. Under such change, gravity is emphasized and recovery unlikely. In these cases the only means of determining the presence of severe infection is the relative count which consistently shows a high or rising percentage of neutrophils. A high total count by no means indicates an absolutely favorable termination, but an absence of hyperleucocytosis, or more particularly, the presence of a leucopenia in a severe case of infection, is a certain indication of a fatal prognosis.

CHARTING THE FINDINGS. To record repeated counts, nothing surpasses the use of a chart or diagram upon which one may visualize a changing record throughout the course of a disease. A blood report form is used which carries our modification of the Gibson diagram, and upon which several complete blood examinations may be recorded. Here one may see at a glance the changes from count to count and interpret the resistance units of disproportion by a rising or falling line. To avoid an error which may be made in interpreting a rising from a falling line, we place an arrowhead on the neutrophil end of the plotted line to indicate the direction the line is taking. The original Gibson diagram⁷ used a base line as a starting point connecting 10,000, the normal extreme total count, which is recorded on the left side of the chart, with 75 per cent, the normal extreme neutrophil percentage, which is recorded on the right side. A rise in one per cent of neutrophils under normal conditions of resistance is met by an increase 1,000 cells in the total count. A true proportional increase in these two elements results then in a horizontal connecting line which indicates a resistance in proportion to the degree of infection. A low total count with a high percentage of neutrophils results in a rising line which means infection in excess of resistance, or resistance not in keeping with infection (pre-operation lines 1 and 2, Chart 2). The more sharp the rise in this line, with the neutrophil end being disproportionately high, the more severe is the condition, and the more guarded should be the prog-

nosis. A curve that rises more sharply from count to count indicates a more severe inflammatory condition, with a relatively poorer body resistance, and



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Neutrophiles

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Case No. B. C. 5672

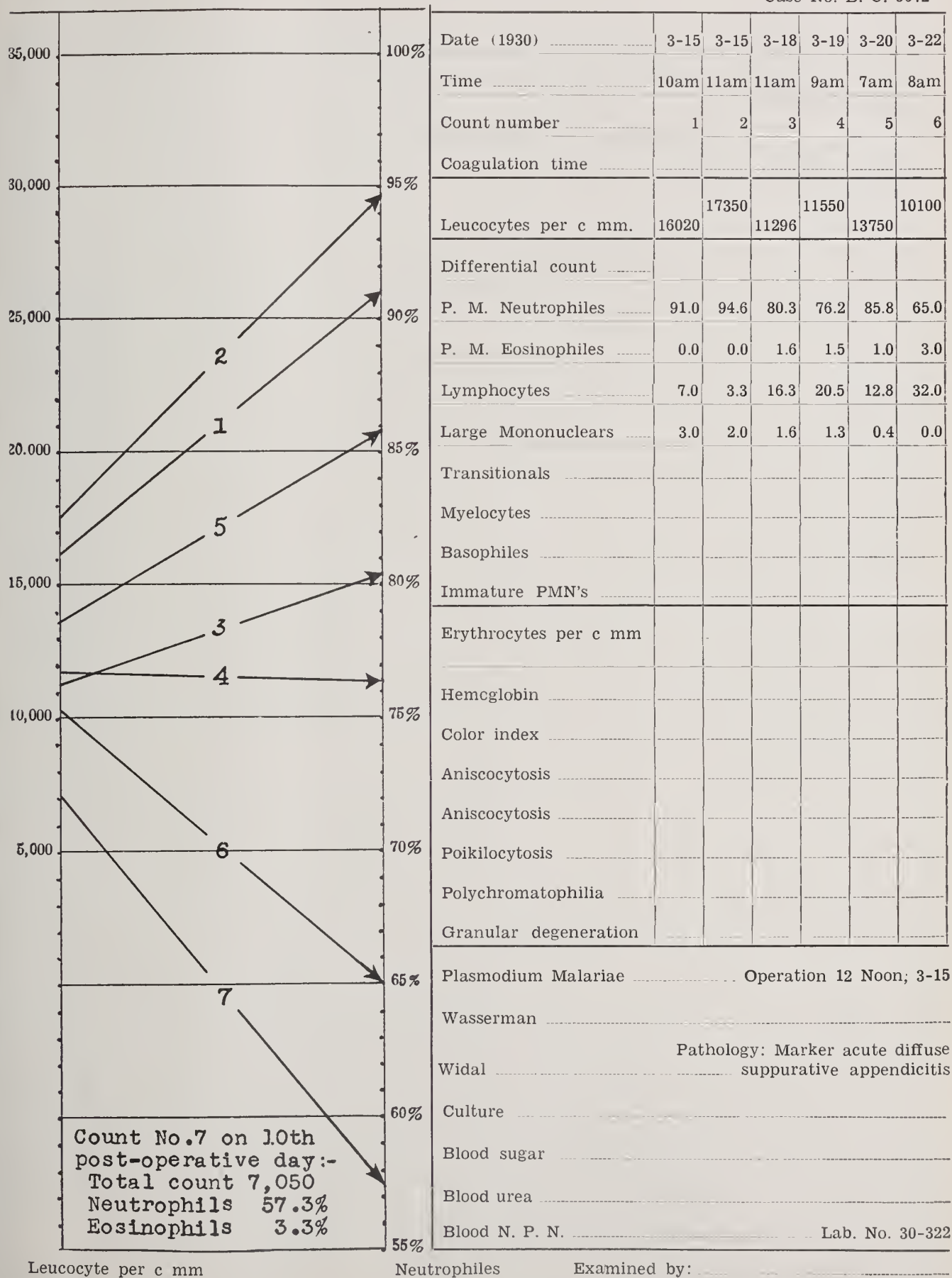


Chart 2. Counts 1 and 2 pre-operative; 3-7 post-operative. Count 5 on 5th day called for investigation. Concealed wound infection was found. Counts 6 and 7 normal post-infection lines of convalescence.

a prognosis becoming increasingly grave. To the reverse of this, where there is a high total count, with a relatively low percentage of neutrophils, there results a falling line which portrays good resistance with a less severe infection, and thence warrants a good prognosis.

It is common to speak of units of disproportion, and according to whether the line is rising or falling, it is termed a rising or a falling line, with so many units of difference. The unit of measurement is the disproportion that exists from a horizontal line upward or downward for each rise or fall of one per cent in neutrophils above or below the total cell count end of the line. For convenience, the short and incomplete marginal lines each indicate one per cent of neutrophils, or 1,000 total cells as the case may be, and thus one of these units. A rising line of more than 5 units of disproportion in surgical conditions indicates the advisability of surgery, and the greater the number of units of disproportion, the more urgent is the need for immediate surgery, and the more guarded should be the prognosis. A falling line is not in itself contraindication to surgery, but does signify that surgery is not imperative, although for certain clinical or personal reasons, it may be advisable.

REPEATED COUNTS. Repetition of counts is a necessity in watching the doubtful case (compare counts 1 and 2 in Chart 2). They show in acute pyogenic infections the rising neutrophilia, the falling eosinophil values and the waning of a lymphocytosis that may have been present. Not uncommonly we see a blood count with a neutrophil percentage of 45 to 50, and 3 hours later a count of 60 or even 70. The second count showing the rapid rise in neutrophil values of 50 or more per cent is a very emphatic indication of infection, yet the values of the second count are strictly within the generally accepted normal percentages. Repeated counts showing the trend or curve are of much greater value than a single count, although the latter in itself in well established infections may be diagnostic.

The blood count record of Case No. 29-959, which showed an acute suppurative appendix, with necrosis, perforation and peritonitis when operated upon on the third day, gives a perfect example of the importance of repeated counts, the significance of the neutrophil rise, the decrease in eosinophils, and the unreliability of the total count:

	1st day	2nd day	3rd day
Total count	10,400	8,600	5,020
Neutrophil per cent	72.5	81.0	86.5
Eosinophil per cent	4.0	0.5	0.5
Lymphocyte per cent	19.5	14.0	10.0
Large mononuclear per cent	4.0	4.5	3.0

EARLY COUNTS. An early count to establish, relatively speaking, a base line of normal for the patient at the time is always advisable, and often imperative. Neutrophil percentage values of 40 or even 50, which are common, could rise, and eosinophil percentages of 12 or 6 could drop to 50 per cent of these values, and yet be within the strict range of normal. It is under such conditions that the leucocyte count fails unless one has taken an early count and charted the changing values.

Early counts are of extreme value in recognizing and diagnosing agranulocytosis (agranulocytic an-

gina; granulocytopenia; malignant neutropenia). Differential and total cell counts here are imperative and constitute the only absolute diagnosis. The total count reveals a drop to levels as low as 500 or 300, or less, white cells per unit volume of blood, while the differential shows the fall in percentage even to the absence of the granular leucocytes.

POSTOPERATIVE OR POSTINFECTION COUNTS.

Daily postoperative counts and daily counts in strictly medical conditions, as pneumonia, are of great value in prognosis, in determining when infection has been overcome, when convalescence is established, or when there is reinfection, spread of infection, new field of infection, or loss of resistance. Often the change in curve is the only indication of something happening in the course of the disease that demands investigation and correction (Chart 2, count 5). Even in the absence of clinical evidences of these changes the leucocyte picture cannot be disregarded. Often a wound infection or an infection in an entirely new field, such as pneumonia, hepatitis, or pyelitis, may be suspected before there are other findings.

After surgical procedures in acute infection, especially where the peritoneum or other large areas are involved, the postoperative counts taken during the first 24 hours often show a rise in the neutrophil percentage above the preoperative finding. This may be interpreted as the continuation of a rising curve due to the stimulated bone marrow from the infection prior to its removal. However, we believe that in some cases it is due to the increased toxic absorption as a result of physical manipulations during the operation. Attention is called to this because unless this rise has been carefully watched under one of these interpretations, it may be taken as a sign of increasing gravity, which we feel is not warranted unless the rise is very sharp or persists over several days.

The graph and record on Chart 2 demonstrate the full value to be obtained by the methods advocated. The count recorded as line 1 with an absence of eosinophils reveals a finding 3 hours after onset with pain, and 2 hours before the removal of an acute suppurative appendix. This rising line of 10 units of disproportion indicates an acute pyogenic infection of a marked degree, with resistance not in proportion to the infection. Line 2 represents the change that occurred within the hour of getting the patient to a hospital. Lines 3 and 4 represent the expected normal postoperative receding curve, with the records showing the reappearance of eosinophils to 1.6 per cent on the third postoperative day. The record of count 5 giving the change in the curve on the fifth day called for investigation. This represents a rise from line 4, with 9.6 units of increase in neutrophils, 2 units of rise in total count, and a decrease in the percentage of eosinophils. Spreading of the wound revealed a deep pocket of pus. The counts represented by lines 6 and 7 followed drainage of this focus of infection and the re-establishment of the convalesc-

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ent curve.

THE ERYTHROCYTE SEDIMENTATION RATE. The erythrocyte sedimentation rate has been used by some gynecologists, phthisiologists and others as a guide to infection and to determine the degree of activity of the disease if and when present, and as an aid in determining the proper time for operation. The test has its values, particularly in gynecology and in tuberculosis. It does, however, fall short of permitting certain interpretations obtained from the differential and total leucocyte count, and in its use there are other limitations. It cannot replace the methods advocated for the diagnosis and prognosis of acute infections and in the diagnosis of leukemias.

GENERAL FACTS. Emphasis should be made relative to leucocyte values in the following conditions:

1. Where spontaneous drainage occurs throughout the course of infection or at irregular intervals, as in pyelitis with its alternating periods of retention and drainage, the blood picture is subject to modification at least to a marked degree in the total cell count.

2. Pneumococcic infections notoriously give high values especially in the total cell count. In appendicitis one rarely sees a total cell count above 30,000, but in pneumococcic infections it is commonly found above this value. In several cases of lobar pneumonia there have been seen total white cell counts of 54,000, 63,000, and 72,000, with 94, 96, and even 98 per cent neutrophils.

3. A peritoneal inflammation causes a higher total and differential count than does a localized infection, as may be found in appendicitis, or walled

off in an abscess.

4. The literature abounds with statements to the effect that in acute appendicitis, pain is the only dependable finding, that the leucocyte count is at best only confirmatory, and absent in 20 per cent of the cases. This is not our experience. The most dangerous appendix is the acutely diseased one where pain ceases following perforation, thrombosis or marked necrosis. Too often the cessation of pain is mistaken for a quiescent condition of the disease, when in fact it is then in its most dangerous state. In these so-called silent and painless cases of highly vulnerable appendicitis, the high and rising neutrophil percentage with a falling eosinophil value as an indicator of infection and of increasing gravity, surpasses everything and in fact often constitutes the only positive findings.

DELAY. It is desired to emphasize the importance of delay in the mortality of one disease—acute appendicitis. In a survey of 5,121 cases of acute appendicitis, Bower² found that if a patient of good physical condition is operated upon within the first 12 hours, he is safe in at least 99 per cent of the cases, but at the end of the 24 hour period, the chances against recovery are 1 in 39, while in 48 hours it drops to 1 in 17, and after 72 hours, it is 1 in 9. Often the most important decision about a case, the type and extent of treatment, must of necessity be altered because of delay. The use and proper interpretation of the complete leucocyte picture is the best insurance against this costly delay.

EXPLANATORY REMARKS. The opinions herein recited are based upon blood counts from 1,576 con-

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secutive surgical patients seen in two local hospitals where the requirements listed under the paragraph "Objects and Procedure" have been met. As in previous studies^{9, 10, 11}, some reported with my associate, Dudley A. Robnett, M.D., the histologic diagnosis has been taken as final and interpretations of the blood pictures have been grouped into those cases showing acute inflammation on the one hand and on the other, where evidence of acute inflammation was absent, they were designated nonacute. The nonacute group includes chronic inflammatory lesions, normal tissues, neoplasms, tissues removed for prophylactic purposes, or at "interval operations," and some taken out under a clinical diagnosis of "acute." When using this as a basis of measurement, some errors are inevitable. This is especially true where the tissue removed showed no inflammation and yet the blood picture indicated an infection. Such cases have been seen where symptoms pointed to the appendix and upon removal it was found free of acute inflammation, and later a pyelitis, pneumonia, or osteomyelitis became evident.

Approximately 700 cases were of acute appendicitis, and in an analysis of 349 of this number, one of our associates in surgery has recorded a mortality rate of 0.86 per cent¹². This low rate is not attributed to superiority of hospital facilities nor to unique surgical skill, but largely to the fact that our colleagues see their patients soon after onset of the illness and are using this method of blood evaluation and interpretation. By this aid, infections are diagnosed early and operations are performed while the lesion is yet limited to or within the original focus.

In our studies, record is made only of those cases

but always in conjunction with complete clinical signs and symptoms.

2. Early counts are advantageous in arriving at an early diagnosis so that surgical or other treatment may be instituted without delay.

3. Early counts are needed to establish the relative normal values of the patient for comparison against later counts.

4. The rising percentage of neutrophils with the decrease or absence of eosinophils, is the best available guide to the presence of infection, but it does not show its location.

5. The appearance of eosinophils after their absence, or a rise in percentage after their decrease, is often the first dependable evidence of convalescence.

6. The presence of young or immature neutrophils above normal values indicates a demand upon and the response by bone marrow to acute sepsis.

7. Great decreases in neutrophils, as occur in agranulocytosis, indicate unusual vulnerability of the body to chance pyogenic infections.

8. The total cell count in acute pyogenic infections is a guide to and of the patient's resistance.

9. A low or falling total count by no means indicates an absolutely favorable termination, but an absence of hyperleucocytosis, or more particularly, the presence of a leucopenia in a severe case of infection is a certain indication of a fatal prognosis.

11. Single counts may be diagnostic. When they are not repeated counts at 2 to 3 hours intervals are imperative if the blood findings are to constitute a deciding factor.

12. A chart is useful in showing graphically a resistance curve or line and the variations from time

Table. 1 Averages of the blood findings in 1576 surgical cases in which the diagnoses were by histopathology.

Type of case	No. of cases	(Total count)	Average Neutrophil per cent	(Eosinophil per cent)	Per cent of cases with				Eosinophils absent
					(Total Count of:) 15,000 or less	(10,000 or less	(Neutrophils of:) 80% or more	(Below 75%	
Acute	790	18,175	86.10	0.27	45.10	9.70	84.40	5.60	72.30
Nonacute	786	8,321	65.28	1.80	95.90	67.00	9.14	78.55	19.40

where an operation is performed. We have no means of accurately determining the wholesale numbers of patients who have been saved from operative procedures or where the operation has been made one of election by the fact that the blood picture was against there being an acute condition requiring immediate surgery. This is one side of the value of the blood findings not commonly taken into consideration.

The procedures advocated yield simple, clear-cut, unequivocal facts pertaining to infection and resistance. These methods avoid unnecessary delay. They may be put to practical application by any member of the profession. Some of the other methods that are more tedious and cumbersome cause delay of an hour or more in their execution, more skill on the part of the technician and a greater degree of knowledge for their interpretation.

SUMMARY

1. The leucocyte blood picture indicating infection, even in the absence of clinical evidence of such, cannot be disregarded. The blood picture, however, should not be used alone in making such a diagnosis,

to time throughout the illness.

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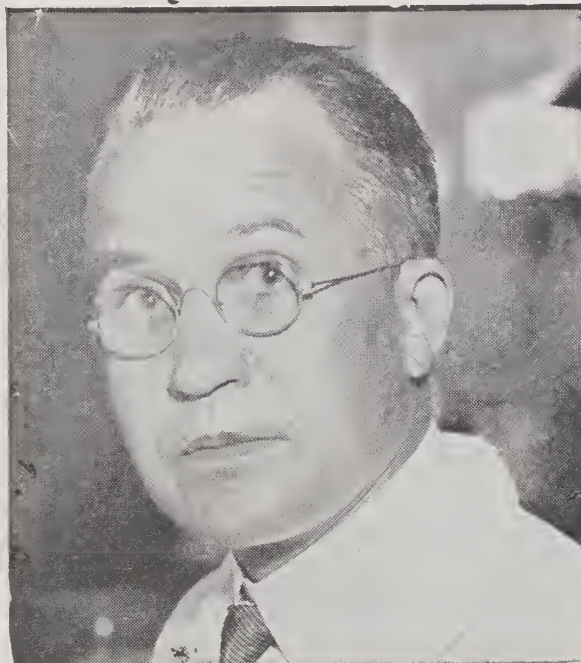
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 - (b) Normal horse serum
 - (c) Convalescent or immune human serum
 - (d) Normal human serum
- (d) Blood by (a) transfusion or (b) by intramuscular injection. Includes auto-hemotherapy.
- (e) Various non specific proteins for the effects of non specific therapy.
- (f) Various extracts of the allergens or exciting agents producing allergy: hay fever, asthma, etc.

Chart 1. VACCINES

1. Vaccines have proven of definite value in the prevention of certain diseases.
2. But their value in treatment has been frequently questioned.
3. The psychological attitude of the physician and patient has some bearing upon the results of therapeutic immunization.
4. However there must be something of real merit in vaccine therapy to have had it survive all the abuses committed in its name during the past twenty-five years.

Chart 2. EFFECTS OF VACCINES

1. The effects of vaccines are both specific and non specific.
2. Specific effects refer to the production of antibodies and are almost alone responsible for the prophylactic value of active immunization.
3. Micro-organisms vary greatly in their vaccinogenic activity and not all are capable of producing immunity.
4. Non specific effects refer to the production of fever, leukocytosis, an increase of the non specific bactericidal substances of the blood and promotion of phagocytosis and probably play some role in therapeutic immunization.

Chart 3. PREPARATION OF VACCINES

1. Methods of preparing vaccines are of considerable importance.
2. In general terms vaccines of living bacteria of reduced virulence are most vaccinogenic but of limited application.
3. The soluble exogenous toxins and products of pathogenic bacteria are highly vaccinogenic and should always be included whenever possible.
4. Vaccines sterilized by phenol, tricresol or other chemical agents are more vaccinogenic than heat killed vaccines.

Chart 4. TOXINS AS VACCINES

1. Vaccines of the soluble TOXINS of staphylococci are especially desirable.
2. These may be prepared by cultivating the organisms in suitable broth media for 5 days.
3. The broth culture should be passed through a Berkefeld filter and the sterile filtrate employed as a vaccine.

4. Or tricresol to a concentration of 0.5 per cent may be added to the unfiltered culture followed by incubation at 37 C. for 24 hours and employed as a vaccine after proper dilution if found sterile upon subculturing.
5. Or chemically killed organisms may be added to a sterile filtrate in the desired concentration.

Chart 5. DIAGNOSIS AND VACCINES

1. Accurate bacteriological examination is requisite in the preparation of autogenous vaccines.
2. No matter how carefully a vaccine is prepared it can not be expected to give specific results if the primary organisms of importance are lacking.
3. The very purpose of vaccine treatment may be defeated at the outset by poor or indifferent bacteriological technic.

Chart 6. AUTOGENOUS VS. STOCK VACCINES

1. As a general rule autogenous vaccines are to be preferred to stock vaccines in the treatment of disease because:
 - (a) The occurrence of immunologically specific strains of pneumococci, streptococci, staphylococci gonococci and possibly other pathogenic bacteria.
 - (b) The freshness of autogenous vaccines and the presence of toxins before deterioration by age and room temperature.

Chart 7. ADMINISTRATION OF VACCINES

1. The route of administration of vaccines has an important bearing upon their prophylactic and curative activities.
2. The skin is an important organ of antibody production and intracutaneous injections are probably to be preferred to the subcutaneous route.
3. As antibody production apparently occurs in the infected tissues it is likely that the local applications of vaccines and especially Besredka's "antivirus" may possess therapeutic possibilities.
4. The local application of vaccines may also bring bacteriophage into play but the possibility of local antibody production appears to be the more important mechanism.
5. For non specific effects from bacterial protein the intravenous route is to be preferred.

Chart 8. VACCINE TREATMENT OF ACUTE INFECTIONS

1. Vaccines are not necessarily contraindicated in such acute systemic infections as surgical septicemia, pneumonia, typhoid fever, etc.
2. Small doses do not add appreciably to the toxemia.
3. Small doses at close intervals are indicated however, when vaccines are employed to avoid overstimulation of the immunizing capacity of the patient.
4. As antibody production may occur principally in the infected tissues it is likely that the intracutaneous or subcutaneous injection of small doses may

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stimulate the antibody producing capacity of the skin and other tissues.

5. The intravenous injection of small doses is sometimes advisable for non specific effects.
6. The vaccine treatment of acute localized infections is permissible and advisable.
6. The vaccine treatment of acute localized infections is permissible and advisable.

Chart 9. VACCINE TREATMENT OF CHRONIC INFECTIONS

1. The vaccine treatment of chronic infections has been the usual field of application in the basis of stimulating antibody production.
2. Infections of bone are usually refractory and likely to yield unsatisfactory results.
3. The vaccine treatment of infections of the soft tissues is usually more satisfactory and especially those due to staphylococci and streptococci like furunculosis, asthma due to bacterial sensitization, etc.
4. The vaccine therapy of focal infections is deserving of wider application.
6. Extracted teeth and enucleated tonsils should be carefully cultured and autogenous vaccines administered as part of the therapeutic program in the treatment of recurring iritis, chronic infective arthritis, neuritis, myositis, etc.

Chart 10. TREATMENT OF FOCAL INFECTION

1. The removal or drainage of all primary foci of fundamental importance. Results sometimes prompt and even dramatic if secondary lesions are not chronic.
2. In chronic secondary lesions the removal or drain-

age of primary foci may be without benefit since the secondary infection may be so well established as to be independent of the primary; it is like "locking the stable after the horses are stolen." But removal of the primary foci may still result in improvement and reduce the chances of progression.

3. It is also advisable to drain or extirpate secondary foci when possible for relief of symptoms and because these may result in progressive infection.
4. Do not remove tonsils during stage of acute tonsillitis.
5. Do not remove more than one or two teeth with periapical abscesses at first. To do so may flood the blood with streptococci and cause acute exacerbation of secondary lesions or result in subacute bacterial endocarditis. Have cultures made of first one or two teeth and prepare autogenous vaccine of streptococcus almost invariably present to contain 1000 million per c.c. Give at least four to six injections at weekly intervals starting with 0.1 c.c. to raise immunological resistance before balance of teeth are removed. This is especially important if secondary lesions are present and particularly in patients with rheumatic or congenital heart disease.
6. If patient is very anemic raise immunological resistance by blood transfusion before operation.
7. Removal or drainage of primary foci alone is insufficient. Always have autogenous vaccines prepared (100 million per c.c.) and followed up with injections at weekly intervals starting with 0.1 c.c. and gradually increasing for at least 10 to 20 in-

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8. Non specific protein or "shock therapy" sometimes of value: (a) typhoid vaccine intravenously starting with 50 million; (b) intramuscular injections of sterilized milk (starting with 5 c.c.) at weekly intervals.
9. Iron for anemia; diet and especially vitamins C and D; ultraviolet light, etc.

Chart 11. SOME PRINCIPLES OF VACCINATION

1. Vaccination or ACTIVE IMMUNIZATION depends upon the capacity of vaccines for stimulating the body cells to actively produce specific antibodies. Non specific effects which may be helpful in the treatment of disease do not appear to have much immunizing value.
2. Unfortunately and for reasons not understood at present the DEAD vaccines of some pathogenic organisms like those of SP. PALLIDA are without these specific vaccinogenic effects.
3. As a general rule vaccines of LIVING but ATTENUATED organisms are more effective than dead vaccines as shown in vaccination against smallpox, rabies, poliomyelitis, tuberculosis, psittacosis, etc., but cannot always be used on account of dangers involved.
4. Vaccines of the exotoxins or their toxoids are usually highly effective as in immunization against diphtheria, tetanus, scarlet fever, etc. In vaccines of staphylococci and streptococci for therapeutic purposes they should always be included.
5. In some diseases like syphilis and tuberculosis the antibody appears to remain in or upon the cells instead of being in the blood. In these immunity is best produced by the establishment of foci of infection as depots of antibody production.
6. Those infectious diseases known to produce a lasting immunity are the ones in which vaccination is most successful.
7. Some of the greatest triumphs in preventive medicine have been due to the discovery of methods of vaccination and doubtless more will follow in time.

Chart 12. VACCINATION AGAINST SMALLPOX

1. In the United States alone there are reported annually about 50,000 cases of smallpox due to negligence in vaccination despite the fact that it is one of the safest and most effective methods known for the prevention of a dreadful disease. During the 18th Century over 60,000,000 people succumbed to the disease.
2. Only a few cases of postvaccinal encephalomyelitis have been reported in the United States. Cowpox vaccine is not the specific cause and the etiology is unsolved.
3. Tetanus is almost always due to secondary infection of the vaccinal lesion as cowpox virus is rigidly examined for bacilli and spores before use.
4. Children should be vaccinated 6 to 12 months after birth and again at 6 years. Immunity may last for the balance of life but re-vaccination is desirable every 7 to 10 years and always in the presence of an epidemic.
5. Use only fresh virus; always keep virus in a cold place as heat is destructive; vaccination during cold months is preferred; keep children away from horses and stables after vaccination; advise

against scratching; do not use shields; if a dressing is necessary use sterile gauze.

6. Acetone is preferred for the cleaning of the skin; antiseptics kill the virus.
7. The multiple pressure method is preferred. Vaccinate in two areas in case of: exposure to smallpox; in case of failure of previous vaccinations; in case of doubt as to potency of virus.
8. Daily applications of 1 per cent solutions of picric acid and iodine in alcohol to papule and vesicle reduces secondary infection (Schamberg and Kolmer).

Chart 14. VACCINATION AGAINST DIPHTHERIA

1. During the past 10 years the death rate from diphtheria in 88 cities of the United States has fallen from about 12 per 100,000 in 1923 to 3.7 in 1931 due in part to successful vaccination which has reduced the death rate at least 4 or 5 times.
2. If all children between 1 and 7 years were vaccinated the disease could be almost eradicated.
3. Toxin-antitoxin has been largely replaced by vaccines of toxoids.
4. The alum precipitated toxoid in a single dose of 0.5 c.c. not only successfully immunizes about 94 to 98 per cent of susceptible children but likewise more quickly than T-A or other toxoid. Local and systemic reactions are reduced to a minimum by the process of refinement and it appears to be the vaccine of choice.
5. Ordinary toxoid of Ramon is given in two doses of 1 c.c. each about 2 to 4 weeks apart. Immunity results in about 90 to 95 per cent of children. Local and systemic reactions may occur in children over 8 years and adults due to sensitization to proteins of the diphtheria bacillus and culture medium.
6. Immunity develops slowly and requires 1 to 3 months. Vaccination therefore is of no value when immediate protection is required.
7. The immunity however lasts for many years and probably for the balance of life.
8. About 70 per cent of children from 6 months to 7 years give positive Schick reactions and after 10 years decreases to about 15 per cent in cities and 30 per cent in rural districts in adult age.
9. Therefore the Schick test is not necessary for children under 7 years but is advisable over 10 years and in adults when only positive reactors require vaccination.
10. All children should be routinely vaccinated between 1 and 5 years of age by family physicians.

Chart 16. VACCINATION AGAINST SCARLET FEVER

1. About 50 to 75 per cent of children under 10 years of age give positive Dick reactions, the percentage dropping to between 15 to 30 per cent among adults.
2. The duration of immunity following vaccination with toxin is unknown but probably lasts several years. The results are not as satisfactory as ob-

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tained in diphtheria but vaccination is especially advisable in institutions for children, for nurses and physicians in scarlet fever hospitals and to check epidemics.

3. Vaccination with toxoid is not yet on a satisfactory basis. Oral administration of toxin is not as efficient as subcutaneous injections.
4. At least 5 subcutaneous injections of toxin are required. Severe local and general reactions are more numerous in the author's experience than generally stated. The Dicks recommend the following skin test doses: 50, 2500, 20,000, 40,000 and 80,000 to 100,000. The author uses the following doses in children under 10 years of age: 250, 2000, 10,000, 20,000 and 40,000 at weekly intervals. About 90 per cent of susceptible children are thereby immunized to the extent of giving negative Dick reactions.
5. In contacts the first dose of vaccine is given in one arm and a Dick test in the other; if positive the remaining 4 doses are given (Park).

Chart 17. VACCINATION AGAINST TETANUS

1. Ramon and Zoeller, Lincoln and Greenwald, Glen-ny, Sacquepee and Bergey and Etris have safely and successfully immunized guinea pigs and human beings against tetanus by injections of tetanus toxoid.
2. The toxoid of Bergey and Etris is prepared of toxin treated with 0.4 per cent formaldehyde. This toxoid is precipitated with 2 per cent potash alum, washed twice with and suspended in saline solution to which 1:10,000 merthiolate is added.

3. Toxoid engenders antitoxin production very slowly; several months are required. About 1/250 unit per c.c. of serum is probably sufficient for protection. Individuals under 30 years of age produce antitoxic immunity more rapidly than older persons.
4. The toxoid has been found free of spores and safe for vaccination against tetanus.
5. Two doses of 1 c.c. each are given by subcutaneous injection one month apart. In persons who are injured frequently one dose annually would probably give ample protection.
6. Local and general reactions are negligible.
7. Of value for vaccination of persons engaged in pursuits in which injuries occur frequently as farmers, miners, cement workers, mechanics, stablemen, truck drivers, lumbermen, railroad railroad employees and especially the personnel of the military services. Unfortunately there is no skin or other practical test for determining susceptibility at present although a test similar to the Schick test will probably be developed.
8. Of no value in the treatment of tetanus because immunity develops too slowly.
9. An injured person who has not been vaccinated should receive immediately 1500 units of antitoxin. At the same time a dose of vaccine may be given. In severe injuries contaminated with dirt a second dose of 1500 units of antitoxin should be given 5 to 7 days later and one month later a second dose of vaccine.

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Chart 19. VACCINATION AGAINST THE COMMON COLD

1. The "common cold" is a disease of great economic importance.
2. It is also important from the standpoint of predisposing to paranasal sinus infections, pneumonia and tuberculosis.
3. It is probably due primarily to the virus of Dochez but there is evidence to indicate that it usually infects those who carry certain organisms like PNEUMOCOCCI, B. INFLUENZA and STREPTOCOCCUS HEMOLYTICUS.
4. The virus may reduce resistance to secondary organisms like streptococci, pneumococci, staphylococci, M. CATARRHALIS, B. INFLUENZA and B. FRIEDLANDER and thereby render them important etiological agents.
5. Stock and autogenous vaccines possess prophylactic value in about 50 per cent of cases. The author prefers a mixture of equal parts of autogenous and stock vaccines carrying 1000 million per c.c.
6. Four to six doses are recommended at 3 to 5 day intervals during October or November. For adults: 0.2, 0.4, 0.6, 0.8 and 1.0 c.c.; children one half these doses.
7. Of no value in the presence of purulent sinusitis adenoids.
8. Immunity usually lasts from 6 to 12 months but sometimes several years.

Chart 20. VACCINATION AGAINST INFLUENZA

1. A large and conflicting literature makes it impossible to define the present status of vaccination against epidemic influenza.
2. When vaccines of B. INFLUENZA alone or in combination with streptococci, staphylococci, pneumococci, etc., have been employed under WELL CONTROLLED CONDITIONS there has been little or no evidence of their efficacy even in large doses.
3. Many such vaccines have been used at the peak or defervescence of epidemics and have thereby lead to unjustified claims of efficiency.
4. Indeed it cannot be definitely stated that B. INFLUENZA is the cause of sporadic or epidemic influenza and the bacilli are serologically heterogeneous.
5. If vaccines are used they should be of freshly isolated strains from the locality of epidemic and preferably mixed with streptococci and pneumococci with the hope of giving some protection against pneumonia but their use is in the experimental stage.

Chart 21. VACCINATION AGAINST PERTUSSIS

1. Whooping cough ranks third among the destroyers of children with over 10,000 reported deaths alone in the United States each year or about 9.8 per 100,000 population. There is apparently no natural immunity and the age of greatest susceptibility is from 6 months to 5 years of age.
2. LARGE DOSES OF VACCINE ARE REQUIRED for immunization and the Sauer vaccine is giving much better results than former vaccines. It is a POLYVALENT suspension of FRESHLY ISOLATED, highly HEMOLYTIC, SMOOTH STRAINS of B. PERTUSSIS cultivated on HUMAN blood medium and in PHASE I or Leslie and Gardner, killed with

0.5 per cent PHENOL instead of heat. Each 1 c.c. contains 10 billion and a total of 7 or 8 c.c. are given by subcutaneous injection in divided doses.

3. Immunity is apparently produced within 1 to 3 months and lasts 4 years and probably longer.
4. This method is recommended for the vaccination of children in families exposed to pertussis and especially in institutions for children where the author believes it should be routine.
5. In the author's experience while vaccination may be started too late to protect exposed children yet even a few doses has reduced the severity of the disease and given protection against the dreaded bronchopneumonia. Its value in treatment has not been determined.

Chart 22. VACCINATION AGAINST LOBAR PNEUMONIA

1. The author calculates that the incidence of pneumonia is about 267 per 100,000 population and that about 335,000 whites and 67,000 colored persons over one year of age contract pneumonia every year in the United States with the great majority due to pneumococcus infections. The possibility of effective vaccination is therefore of great importance.
2. It is definitely possible to vaccinate the lower animals against pneumococcus with subcutaneous injections of vaccine and it is very likely that a safe and successful method will be evolved for the vaccination of human beings. The author has confirmed the investigations of Ross on successful vaccination by the oral administration of dissolved pneumococci. Ross has recently reported that about 75 per cent of human beings produce protective antibody to Type I by oral vaccination and about 60 per cent to Types II and III.
3. Subcutaneous injections of large doses however, appears to engender a higher degree of immunity.
4. From 50 to 60 per cent of cases are due to Types I and II, about 12 per cent to Type III and the balance to Group IV which embraces about 30 additional fairly well defined types known at the present time (Cooper).
5. This multiplicity of types complicates vaccination but according to the author's investigations a vaccine of Types I, II, III, VII and others or Group

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VI is full of promise and especially when prepared of SMOOTH types attenuated or sterilized with chemical agents instead of heat.

6. The resulting immunity apparently lasts for a year or longer.
7. Until a satisfactory and practical test for susceptibility is available, vaccination of the following groups may be advisable: (1) those who have had pneumonia; (2) those highly susceptible to the common cold; (3) those with measles, influenza and "grippe;" (4) the elderly with cardio-renal disease; (5) those whose work expose them greatly as firemen, policemen, etc.; (6) those confined to camp and communities favoring epidemics.

Chart 24. VACCINATION AGAINST TUBERCULOSIS

1. The production of allergy or sensitization to tubercle bacilli, which follows tubercle formation, appears to constitute the chief means of resistance and the purpose of vaccination.
2. Petroff, Zinsser and others state that it can be produced in guinea pigs by the production of localized tubercles by injections of dead tubercle bacilli but whether or not this method is of practical value for vaccination awaits further investigation.
3. Three feedings of a vaccine of living but attenuated tubercle bacilli in the form of B. C. G. (Bacille Calmette-Guerin) during the first 10 days after birth have been given to more than 100,000 infants in Europe and while the statistics are not entirely accurate it would appear that the mortality from tuberculosis among vaccinated

babies has been materially reduced.

4. Petroff claims to have obtained a virulent variant by dissociation of this culture and therefore regards the vaccine as potentially dangerous but Park states that there is not the slightest evidence of the bacilli remaining and becoming more virulent after the administration of the vaccine.
5. Without doubt living but attenuated tubercle bacilli can produce the protective allergy more effectively than dead bacilli and the subcutaneous injection of 1/100 to 1/10 mg. of B. C. G. appears to be more effective than oral administration. Vaccines of living but attenuated bacilli offer therefore considerable hope of ultimately developing a safe and practical method of vaccination against tuberculosis.

Chart 25. VACCINATION AGAINST TYPHOID FEVER

1. Vaccination against typhoid fever along with filtration of drinking water and other hygienic measures has greatly aided in reducing the incidence and mortality of the disease. During the Spanish-American War the annual admission rate was 91.22 while during the World War with about three million men in camp it was only 0.17 in spite of the most unsanitary conditions in most of the battle-fields during summer months.
2. Paratyphoid fever however is so uncommon in the United States that the author believes vaccination unnecessary.
3. Not all strains of typhoid bacilli are satisfactory for vaccine. It is important to use "smooth," virulent and freshly isolated strains (Grinnell) for

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4. Three doses are given by subcutaneous injection at weekly intervals. Oral administration is possible and good results have been reported (Hoffstadt) but its exact status is uncertain at present.
5. The resulting immunity is very powerful and while not complete will protect for 2 to 3 years against ordinary chance infections.
6. The bactericidal test as a measure of susceptibility and immunity is better than the agglutination test although technically more difficult.
7. Vaccination is especially recommended in localities where typhoid fever is endemic and for those traveling to such districts, camps and foreign countries as well as in the case of physicians, orderlies, nurses and other exposed to the disease.

Chart 26. VACCINATION AGAINST MENINGITIS

1. Vaccination appears to have some value in epidemics of meningococcus meningitis.
2. The vaccine should be freshly prepared of STRAINS PRODUCING THE EPIDEMIC. Three injections at weekly intervals of 250, 500 and 1000 million are advised.
3. The author has found it possible to vaccinate the lower animals against pneumococcus and streptococcus meningitis and believes that when conditions permit it is advisable to vaccinate human beings with three to six weekly injections of autogenous vaccine before operations on the mastoid and nasal accessory sinuses (particularly in ethmoiditis and sphenoiditis) and especially if cultures show that infection is due to hemolytic streptococci and pneumococci. This procedure promises to reduce the chances of complications and particularly suppurative meningitis.

Chart 27. VACCINATION AGAINST RABIES

1. Only about 16 per cent of human beings bitten by rabid animals and untreated appear to contract rabies although it is one of the most mortal of diseases since recovery from rabies is almost unknown.
2. Vaccination has reduced the incidence to less than 1 per cent.
3. Bites about unprotected parts richly supplied with nerves are particularly dangerous as those about the face and hands. The incubation period is shorter and intensive vaccination should be given.
4. Thorough cauterization of wounds with FUMING NITRIC ACID within 12 hours is a distinct value.
5. The vaccine of Pasteur has now been largely replaced by the phenolized vaccine of Semple, the dose being 2 c.c. by daily subcutaneous injection for 14 days.
6. The duration of the immunity is variable but appears to last 1 to 2 years.
6. The duration of the immunity is variable but appears to last 1 to 2 years.
7. In case of doubt it is always better to start vaccination and stop if subsequent examinations and observations show that the animal was not rabid.
8. The wholesale vaccination of dogs against rabies is a valuable public health measure along with the rigid enforcement of older measures.

Chart 28. VACCINATION AGAINST ACUTE ANTERIOR POLIOMYELITIS

1. The age of greatest susceptibility is from 1 to 10

years of age. The majority of adults are apparently immune but the disease may occur among them.

2. The author has safely and successfully vaccinated monkeys and a group of human beings with a vaccine of 4 percent emulsion of virus attenuated by 1 per cent sodium ricinoleate.
3. One to three subcutaneous injections at weekly intervals have produced amounts of antibody in the blood of human beings believed to be sufficient for protection against the disease.
4. The vaccine has produced no effects other than local reactions at the sites of injection with mild or no constitutional effects.
5. The duration of the immunity in monkeys is now known to be at least a year and probably will endure for much longer periods.
6. Antibody production in human beings appears to be promptly produced and has occurred within 4 to 7 days after the first dose in some children.
7. It is believed that the vaccine may be safely employed for immunization during epidemics.
8. Brodie has also successfully vaccinated monkeys with formalin-killed virus and has observed some antibody production in human beings following injections at intervals of two weeks.

Chart 29. VACCINATION AGAINST PSITTACOSIS

1. Rivers and Schwentker have recently shown that monkeys vaccinated intramuscularly with unattenuated psittacosis virus have an increased resistance to the virus and possess neutralizing antibodies in their sera.
2. Of 14 human beings with a negative history of psittacosis only 2 possessed demonstrable antibody in their sera. It is probable however that immunity may exist without demonstrable antibody.
3. The vaccination of 7 human beings with about 6 intramuscular injections at weekly intervals of 0.5 c.c. of 1:1000 to 1:10 dilutions of 10 per cent emulsion of virus from the livers and spleens of infected mice was found to be relatively harmless and lead to the appearance of neutralizing antibodies in the sera.

Chart 30. BACTERIOPHAGE THERAPY IN HUMAN INFECTIONS

1. d'Herelle has explained most failures as being due to the use of bacteriophage which was not sufficiently active or "virulent" for the infecting organisms.
2. For this reason in vitro lysis of the infecting organisms by the bacteriophage should always be demonstrated before the agent is used in treatment.
3. Many of the commercial bacteriophages are lacking in lytic activity and whenever possible should be first tested for lysis in the laboratory before use.
4. The many reports of good results from the use of bacteriophage in human infections makes it

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likely that this therapy is of value in the treatment of some infections but much of the work has not been adequately controlled with broth filtrates alone, the use of culture filtrates without phage, etc.

5. Many of the conflicting results reported may be due to the use of phages of varying lytic activity as well as to variations in dosage and method of application.
6. Furthermore the good therapeutic effects may have been due not only to bacteriophage itself but likewise to other constituents in the broth filtrates.

Chart 31. BACTERIOPHAGE IN LOCAL STAPHYLOCOCCIC INFECTIONS

1. Probably best results in bacteriophage therapy have been obtained in the treatment of FURUNCLES, CARBUNCLES, WOUND INFECTIONS, OSTEOMYELITIS and various PYODERMAS (syccosis vulgaris and acne vulgaris) caused by the staphylococci.
2. Accurate bacteriological examination should be made and a phage actively lytic IN VITRO employed.
3. For local application bacteriophage prepared in broth may be used while that prepared in asparagin medium (MacNeal) is preferred for injection.
4. Wet dressings and irrigations with phage are advised after drainage has been established and as much pus removed as possible. The phage should be brought into the best possible contact with the infected tissues at least twice a day. Antiseptics should not be used at the same time.

5. Injections of 1 to 5 c.c. may be made at different points about the base of a furuncle or carbuncle preferably before incision. Less extensive incisions may be required under this treatment.
6. Algee believes that in about 94 per cent of cases of acute and chronic osteomyelitis a specific bacteriophage develops spontaneously in the Orr closed method of treatment.
7. Intraspinial injections of 10 to 40 c.c. every 12 hours after thorough drainage may be helpful in the treatment of STAPHYLOCOCCUS MENINGITIS.
8. Local applications in CHRONIC SINUSITIS by means of wet packs or the displacement method of Proetz appear to have been sometimes helpful. Daily applications are preferred. In antrum infections phage may be injected into the cavities.
9. In BED SORES due to mixed staphylococcus and B. coli infections local applications every 6 to 12 hours are sometimes very helpful.

Chart 33. BACTERIOPHAGE IN STAPHYLOCOCCIC SEPTICEMIA

1. The general mortality of this septicemia is 40 to 50 per cent.
2. Encouraging results have been reported in treatment with phage despite the fact that the blood and other factors are known to inhibit lytic activity, render regeneration of phage almost negligible and that a concentration sufficient for lysis in vivo is difficult to attain.
3. Diagnosis by blood culture is required; only actively lytic phage in asparagin medium should be

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4. Drainage of local lesions, blood transfusions and supportive treatment should be given.
5. Bacteriophage may be administered INTRAVENOUSLY after the following plan of MacNeal: For the first dose 0.5 c.c. or 5 c.c. of a 1:10 dilution in sterile saline. After 40 minutes 1 c.c. and after another 40 minutes 2 c.c. This is continued doubling the dose each time until a dose of 8 or 10 c.c. is reached or until the patient develops a shock reaction. Thereafter 1 to 4 c.c. daily for several weeks, even though blood cultures are negative, to prevent metastatic abscesses. Shock reactions are desirable suggesting that protein shock may be more important than bacteriophage.
6. In osteomyelitis, abscess of the kidney, multiple early abscesses of the lungs and other deep seated infections intravenous injections may be given after this manner.

Chart 34. BACTERIOPHAGE IN STREPTOCOCCIC INFECTIONS

1. Actively lytic streptococcus bacteriophages are much more difficult to prepare and the results of treatment have not been nearly as good as in staphylococcus infections.
2. In CELLULITIS, CARBUNCLES, INFECTED WOUNDS, etc., injections may be made around the lesions along with wet applications and irrigations as in the treatment of local staphylococcus infections.
3. In SEPTICEMIA the phage should be given intravenously in the manner described in addition to the best possible local drainage, blood transfusions, administration of concentrated antistreptococcus serum and supportive measures.
4. Early administration of these measures is particularly important.
5. It appears to offer some hope in the treatment of ulcerative endocarditis if actively lytic phage is available.
6. The production of shock reactions is desirable and my impression is that therapeutic effects are largely if not entirely due to these non specific protein reactions.
7. Intracarotid (every 24 hours) and intraspinal injections (every 4 to 6 hours) may be tried in the treatment of the highly mortal MENINGITIS while the best possible drainage is given the primary infection.

Chart 35. BACTERIOPHAGE IN B. COLI AND OTHER INFECTIONS OF THE URINARY TRACT

1. The results have not been as good as in staphylococcus infections. In the majority of cases B. COLI is present along with streptococci and other organisms. Accurate bacteriological diagnosis is required.
2. Many strains of B. COLI are resistant to lysis and resistant forms of bacteria seem to present real problems in bacteriophage treatment as well as the inhibitory action of colloidal substances in the urine.
3. The urine should be rendered ALKALINE (pH of 7.0) by the administration of sodium citrate before phage is employed.
4. Probably best results have been obtained with daily subcutaneous injections of 2 c.c. with in-

stillations of the bladder and pelvis at frequent intervals; large amounts up to 50 c.c. may be required.

5. Intravenous injections are indicated when the lymph spaces or renal cortex are involved. Apparently successful bacteriophage therapy proceeds from above downward.
6. Apparently useless in pyelitis and cystitis secondary to some other disease as in obstruction, calculus, hydronephrosis and renal tuberculosis.
7. In abscess of the kidney intravenous injections are required.
3. In B. COLI pyelitis of children daily subcutaneous injections of 1 to 2 c.c. have been reported as successful.
9. In PROSTATITIS and SEMINOVESICULITIS due to staphylococci subcutaneous injections may be tried.
10. Recurrences after phage treatment are very frequent.
11. There is no convincing evidence that a GONOCOCCUS bacteriophage has been discovered. Subcutaneous injections of "gonophage" (Pelouze and Schofield) may be helpful; local instillations increase the discharge.

Chart 37. BACTERIOPHAGE IN ENTERIC DISEASES AND BUBONIC PLAGUE

1. In typhoid fever and paratyphoid fevers, bacillary dysentery and cholera oral administration has been generally employed.
2. Some phages however are apparently destroyed by hydrochloric acid in the stomach and inhibited by substances in the intestinal canal. Bile is strongly inhibitive.
3. d'Herelle believes recovery is due to bacteriophage in the intestinal contents but patients have recovered with none in the feces and others have died despite its presence.
4. TYPHOID bacteriophage apparently has no striking therapeutic effects by oral administration. Subcutaneous and intravenous injections may be temporarily helpful by producing protein shock reactions.
5. In ASIATIC CHOLERA treated with the oral administration of phage the mortality has been practically unchanged. d'Herelle claims to have stopped epidemics by adding cholera bacteriophage to drinking water.
6. In BACILLARY DYSENTERY the results have been conflicting and for the most part inconclusive despite the enthusiastic predictions of d'Herelle.

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 MISS ETTA WADE, Clinical Pathologist

7. In BUBONIC PLAGUE d'Herelle has reported excellent results from injection of phage into the buboes but these results have not been confirmed.

Chart 38. BACTERIOPHAGE IN SUPPURATIVE PNEUMONITIS

1. The author has shown that intrabronchial injections of bacteriophage in rabbits and dogs are extremely well borne.
2. The treatment of intractable CHRONIC BRONCHITIS, early BRONCHIECTASIS and lung abscess with mixtures of actively lytic staphylococcus and streptococcus bacteriophage offers a safe, reasonable and hopeful plan of treatment.
3. Bronchoscopic drainage and lavage for the removal of as much mucopurulent secretions as possible are required before the instillation of 10 to 20 c.c. of phage.
4. Frequent applications are indicated. Daily instillations by a passive method are advised followed by additional instillations at longer intervals.
5. Bacteriophage for the pulmonary spirochetes has not yet been discovered or produced.
6. These local applications may be supplemented by daily subcutaneous injections of 2 c.c. In pulmonary abscess intravenous injections may be given (2 c.c.) followed by subcutaneous injections.

Chart 39. THE ANTIVIRUS OF BESREDKA

1. This is usually prepared by cultivating organisms in broth for 10 days and passing through a Berksfeld filter.
2. The filtrate is said to inhibit the growth of the homologous organisms and hence is called "antivirus."
3. In the author's experience the filtrates are largely bactericidal because of the presence of bacterial metabolites.
4. The antiviral virus however may contain some bac-

teriophage.

5. Besredka has advised local applications or oral administration of antiviral virus on the basis that cells are desensitized or made unreceptive to infection by a process of local immunization.
6. Since this may be possible the local applications of bacteriophage may owe part of their efficacy to a similar local immunization by the bacterial products they contain in addition to any direct lytic effects.
7. Local immunization by the application of antiviral virus to the skin, abscesses, bronchial mucosa, sinuses, etc., as well as by oral administration in the prevention and treatment of enteric infections however appears to be unproven and not well founded on facts; rather the therapeutic results appear to depend more on general immunization consequent to absorption.

Chart 40. CONVALESCENT OR IMMUNE HUMAN SERUM

1. FOR THE PROPHYLAXIS OF MEASLES:
 - (a) Intramuscular injection of 25 c.c. of whole parents' blood or about 15 c.c. of serum.
 - (b) Intramuscular injection of 2 c.c. of "immune globulin" prepared of human placenta (Baird). Protects in about 87% cases. Also of value in treatment with rapid disappearance of symptoms and reduction of complications.
2. FOR THE PROPHYLAXIS OF INFANTILE PARALYSIS:
 - (a) The intramuscular injection of 25 c.c. of whole blood or 15 to 20 c.c. of serum from a recovered case known to contain antibody.
 - (b) Or a similar injection of blood or serum from a normal person. Better to use a pooled serum known to contain antibody by the monkey serum-neutralization test.
3. FOR THE PROPHYLAXIS OF SCARLET FEVER:

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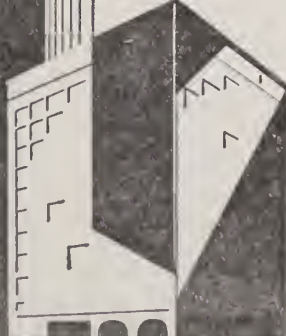
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4. The immunities last only a few weeks.
5. **FOR THE PROPHYLAXIS AND TREATMENT OF HEMORRHAGE AND HEMORRHAGIC STATES:** Intramuscular injections of whole blood preferred (25 to 50 cc.); or intramuscular injections of serum (15 to 30 cc.).
6. Blood typing not required for intramuscular injections.
7. No danger of anaphylactic reactions.

Chart 41. SERUM PROPHYLAXIS

1. Immune horse sera employed; concentrated sera always preferred; immunity lasts only 2 to 4 weeks; injections subcutaneous or intramuscular (preferred); should not be used indiscriminately because of sensitization; precautions against allergic reactions.
 1. Diphtheria antitoxin: 1000 units.
 2. Tetanus antitoxin: 1500 units; repeat in 5 days in severe injuries.
 3. Tetanus-gas gangrene antitoxin: carries 1500 units vibron septique antitoxin. Repeat at 7 day intervals. Abnormal lacerations; pelvic injuries; bone injuries (especially street accidents).
 4. Scarlet fever antitoxin: 2000 units; severe reactions may occur.
 5. Antistreptococcic serum concentrated: 10 to 20 cc. intramuscularly for prophylaxis of puerperal septicemia; cellulitis; meningitis (from mastoid); etc. Repeat every 5 days for several doses.

Chart 42. SERUM THERAPY

1. The chief principles of successful serum therapy are: (a) early administration; (b) large dosage and (c) proper route of administration.
2. Precautions against acute allergic shock.
3. Sera available for the treatment of:
 1. **DIPHTHERIA:** 10,000 to 20,000 units repeated as required; intramuscular injection; intravenously in very severe cases.
 2. **TETANUS:** 10,000 to 20,000 units intravenously; 10,000 to 20,000 units intraspinally; followed by intramuscular injections.
 3. **GANGRENE:** 10,000 units B. welchii and 10,000 units vibron septique antitoxin intravenously or intramuscularly; repeat every 6 to 24 hours.
 4. **ERYSIPELAS:** 10 to 20 cc. antitoxin intramuscularly repeated every 24 hours as necessary; especially useful in facial erysipelas.
 5. **SCARLET FEVER:** 600 new units antitoxin intramuscularly; repeat as necessary; useful if given early.
 6. **OTHER STREPTOCOCCUS INFECTIONS:** polyvalent concentrated serum; 10 to 20 cc. intravenously; repeat daily followed by intramuscular injections.
 7. **LOBAR PNEUMONIA OF ADULTS:** Felton's concentrated serum for type I and II; 10,000 to 20,000 units every 4 to 8 hours for total of at least 60,000 units; intravenous injection preferred; as early as possible. Especially valuable in positive blood culture cases.
 8. **MENINGOCOCCUS OR EPIDEMIC CEREBRO-**

SPINAL MENINGITIS: Intraspinal injections every 12 hours for first 3 or 4 days; one or two doses intravenously in severe cases; then intramuscular injections; dose 15 cc. for children; 30 cc. for adults.

9. **BACILLARY DYSENTERY:** 20 cc. intramuscularly; repeated daily.
10. **ANTHRAX:** 50 to 100 cc. intravenously especially in positive blood culture cases.
11. **ULCERATIVE COLITIS:** due to streptococcus of Bagen; 1 cc. gradually increased to 5 cc. by intramuscular injection every day or every other day over considerable period of time.
12. **GONOCOCCUS SEPSIS:** 50 to 100 cc. intravenously; repeated daily as required; then intramuscular injections.

Chart 44. BLOOD TRANSFUSION

1. **BLOOD TRANSFUSIONS:** (1) Accurate typing and careful selection of donors; (2) Precautions against transmission of syphilis and malaria; (3) direct method preferred to citrate when possible.
2. Of therapeutic value in the treatment of:
 - (a) **Acute HEMORRHAGES** (surgical accidental;) ruptured viscera (ulcer, obstetrical, etc.); shock.
 - (b) **DISEASES OF THE BLOOD** as melena neonatorum; hemophilia; purpura hemorrhagica; pernicious anemia with liver extract; leukemia; aplastic anemia; agranulocytic angina, etc.
 - (c) **SEPTICEMIAS** especially streptococcic and staphylococcic.
 - (d) **TOXIC AND DEBILITATED STATES** as uremia; carbon monoxide poisoning (methylene blue probably better); bronchopneumonias; cancer, etc.
3. Repeated intramuscular injections of 20 to 30 cc. of whole blood frequently sufficient in melena, hemophilia and purpura.

Chart 45. SURGICAL AND BIOLOGICAL THERAPY OF SEPTICEMIA

1. Will never be satisfactory until serum and chemotherapeutic measures are improved.
2. Requires expert and careful co-relation of surgical drainage, biologic therapy, chemotherapy and general measures.
3. Adequate and prompt **SURGICAL DRAINAGE** whenever possible is of prime importance.
4. Early administration of **IMMUNE SERA** in large dosage with special reference to polyvalent anti-streptococcus serum; methods.
5. Frequent small **BLOOD TRANSFUSIONS** to re-

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plenish complement and natural antibodies (opsonins; bactericidans).

6. Specific and non specific immuno-transfusions probably preferred and especially the latter; methods.
7. Intravenous and subcutaneous injections of BACTERIOPHAGE in straphylococcus and streptococcus infections.
8. NON SPECIFIC PROTEIN THERAPY of value; methods.

Chart 46. CHEMOTHERAPY OF SEPTICEMIA

1. Neoarsphenamin (0.45 gm.) intravenously in streptococcus puerperal septicemia.
2. Pregl's solution of iodine intravenously (20 cc.).
3. Rivanol (1:1000) or neutral acriflavin (1:200) by intravenous injection (20 to 40 cc.).
4. Mercurial antiseptics; mercurochrome, metaphen, etc.
5. Neoarsphenamin in anthrax septicemia. etc.

Chart 47. GENERAL MEASURES IN SEPTICEMIA

1. Fluid intake to 3000 cc. per day for adults.
2. Daily intravenous injections of glucose (25 to 50 cc. of 50 per cent solution).
3. Venoclysis.
4. Diet high caloric; vitamin A.
5. Whiskey or brandy.
6. Strychnine; digitalis; morphine.
7. Enemas; turpentine stupes; surgical pituitrin.
8. REST and carefully arranged daily programs to give minimum of disturbance.

Char 48. PROPHYLAXIS OF SEPTICEMIA

1. Of particular importance since methods of treatment are so frequently inadequate.
2. Antistreptococcus serum should be employed more frequently for prophylactic purposes and especially in abortions, prolonged labor, in mastoiditis, surgical and autopsy wounds in septic cases, pneumonia, etc.
3. The immune sera have greater prophylactic than curative power.
4. Many surgeons and obstetricians especially have not yet learned this lesson.
5. More drastic surgical drainage of primary foci sometimes required. It may be better to lose an arm than a life.
6. Greater care in the extraction of infected teeth in congenital and rheumatic heart disease.

Chart 49. NON SPECIFIC PROTEIN THERAPY

1. Non specific protein therapy is still largely upon an empirical basis.
2. The mechanism is unknown but the production of fever along with quantitative and qualitative changes in the leukocytes with an increase of non specific bactericidal substances of the blood with increase of phagocytosis and focal reactions of hyperemia and exudation are regarded as being of most importance.
3. Many agents have been employed and especially typhoid and other vaccines intravenously and sterilized milk or milk proteins intramuscularly.
4. Severe constitutional reactions from intravenous injections are dangerous in chronic myocarditis and especially in syphilis.
5. Especially good results have been observed in some

cases of chronic recurring iritis, chronic gonococcus infections, infective arthritis, recurring erysipelas, neurosyphilis, etc.

6. Has also been employed with success in the treatment of some acute infections like pneumonia, typhoid fever. septicemia, etc.

North Mississippi Medical Society

At a recent meeting the following were elected as officers of the North Mississippi Medical Society for this year:

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SECRETARY

A. H. Little Oxford

Book Review

Two delightful and highly interesting little books which have come to our desk recently are one on geology and the other about astronomy. In college or university few of us include one or both of these subjects in our course of study, but the academic course seemed never to have been complete without an illuminating, if only introductory, study of the earth and the heavens about us. "THE UNIVERSE UNFOLDING" is an excursion to the very limits of our world, where we meet the stars, become acquainted with their habits; where we find ourselves only a minute part of the vast order of the universe; where the Milky Way becomes a vertible labyrinth of romance and mythical lore interpreted by modern science; and we even venture beyond the Milky Way in daring flights into the eternal galaxies.

In "THE STORY OF A BILLION YEARS," by W. O. Hotchkiss, we descend to earth in an intensely realistic manner, find that geology is rightly called "easy science" because of its fascination. Our author awes us with his survey of the earth from its origin; its climates and records of living things for thousands of years; then with compelling dexterity applies this wonderful science of the earth to our everyday living. He emphasizes the progress that geologists have made over the past century especially, and projects into the future whose horizon of promise seems illimitable and leaves us with a challenging responsibility of using the vast physical and material resources with intelligence and progress. Will we augment the good that other minds have left to us and pass on a better racial heritage to succeeding generations, or will we diminish it?

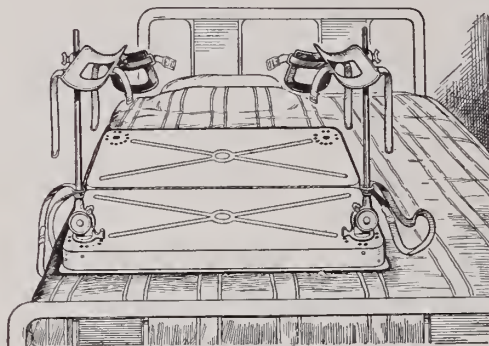
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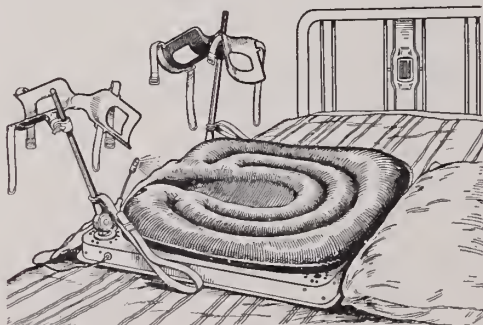
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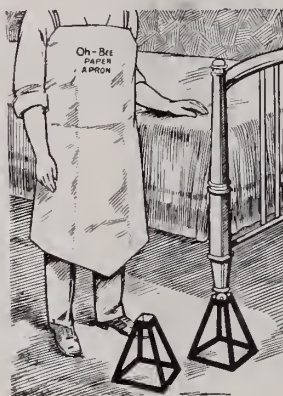
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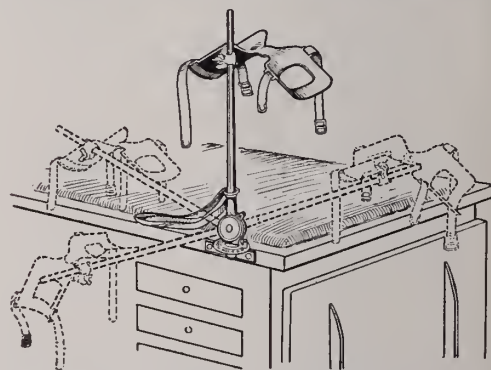
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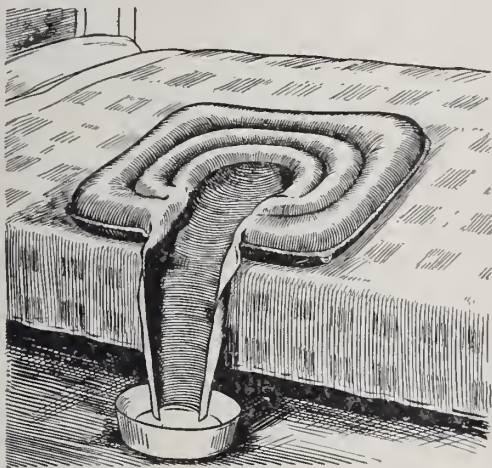
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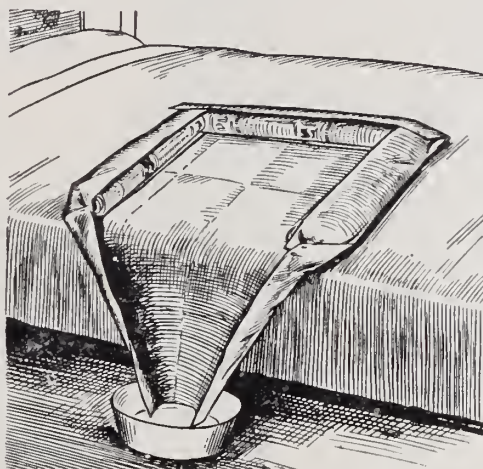
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Some Phases of Streptococcus Infection



WARFIELD T. LONGCOPE, M.D.
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If one were asked to name the disease which caused more sickness and more deaths over the entire globe than any other, the answer would probably be malaria. For the world at large this remains the most important disease. It is still prevalent throughout the southern United States, and in isolated areas causes many deaths. We have sufficient knowledge of the disease to allow, theoretically, of its extermination. The practical difficulties that stand in the way of accomplishing this are admittedly great, but with sufficient money and men the task is humanly possible. The same thing is likely to be true of yellow fever, and for generations the knowledge has been available that would allow of the complete elimination of Small Pox. Control of the bacterial diseases has also advanced considerably. Though we have no cure for typhoid fever, it is possible to prevent almost completely the occurrence of this disease by a combination of preventive inoculation and purification of water supplies.

There are, on the other hand, two infections, both of which are not only prevalent but very serious, for which we have inadequate methods of treatment, and ineffective measures of control. One of these infections is pneumonia; the other is that caused by streptococci. It is to the latter form of infection that I wish to call your attention.

Infections by this organism are particularly prevalent in the temperate climates. It is only necessary to consider for a moment the great variety of forms which these infections assume and to recall the seriousness of their character to realize that we have to deal with an ubiquitous evil against which we must always be on our guard.

The streptococcus has peculiarities that are not shared in, to the same extent, by any other known bacterium. One of its striking attributes is its ability to cause infections of the most varied character in different individuals. In one patient it may give rise

to a comparatively benign local infection of the skin, or a mild tonsillitis; in another it causes such specific infections as scarlet fever and erysipelas; in a third it produces a fulminating general septicaemia following an insignificant local lesion. It is particularly prone to infect tissues made susceptible to invasion by some comparatively benign disease. The secondary streptococcal infections in whooping cough, measles and influenza may convert these diseases into veritable plagues. This occurred, as you know, during the war. The epidemics, too, of septic sore throat, spread by milk, have resulted in many deaths. In still another manner the streptococcus may indirectly produce damage. By inducing a local infection of the faucial ring it must probably be regarded as the usual cause of hemorrhagic nephritis, and possibly of chronic infectious arthritis (rheumatoid arthritis), and by some it is considered to be closely related etiologically to acute rheumatic fever, though this matter is still under debate.

In order to present to you more graphically the multiple activities of the great group of streptococci, I have tabulated some of the results of infections by these organisms.

Table 1

Multiple Activities of the Various Forms of Streptococcus

- I. Local Infections without Specific Characteristics: Skin infections, wound infections, otitis media, sinusitis, infections of genito-urinary tract, cellulitis, empyema, peritonitis, meningitis.
- II. Infections more or less Specific in Character: Tonsillitis, puerperal sepsis, interstitial pneumonia.
- III. Specific Infections: Scarlatina, Erysipelas.
- IV. General Septicaemia.
- V. Specific Diseases often associated with Local Streptococcus Infections: Acute Hemorrhagic nephritis, chronic infectious arthritis, (rheumatoid arthritis) Rheumatic Fever.
- VI. Bacterial Endocarditis (Endocarditis Lenta.) (Streptococcus Viridans.)

One asks immediately whether these diversified infections can all be produced by a single strain or variety of streptococcus. We are able to say that, within certain limits, they are not; for a few well defined varieties of the organism can now be recognized. Schottmuller first showed that the great group of streptococci could be divided broadly into two classes—first those that are capable of hemolysing red blood cells, to which the name *S. haemolyticus* was given; and secondly those that turn red blood cells green, by forming as we now know methaemoglobin, to which the name *S. viridans* was given. Of the two varieties *S. haemolyticus* is by far the most important, and causes practically all the diseases shown in

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the chart except bacterial endocarditis and some local infections. It is therefore to the group of haemolytic streptococci that we will devote particular attention.

Table 2

The Principal Varieties of Streptococcus Haemolyticus and Streptococcus Viridans

I. Streptococcus Haemolyticus—B Type

A. Aerobic

- a. Those pathogenic for man.
- b. Those pathogenic for animal but not for man.
- c. Minute haemolytic streptococci.

B. Anaerobic

- a. Those pathogenic for man.

II. Non-haemolytic streptococci

- a. Streptococcus viridans producing some haemolysis.
- b. Streptococcus viridans producing no haemolysis.
- c. Indifferent streptococci producing neither haemolysis nor met. haemoglobin.

Innumerable efforts have been made to subdivide the large group of haemolytic streptococci with the hope that one might identify specific subvarieties as the cause of scarlet fever, erysipelas, puerperal septicaemia, etc. To this end the character of growth, fermentation of sugars, agglutination, complement fixation and precipitin reactions of different strains have been studied; the toxin formation and its neu-

tralization by immune serum has been investigated, and the variations in virulence and the protective power of immune serum measured. In this discussion it is impossible to mention even the most notable work on the subject, and I can indicate to you, therefore, only the comparatively fixed varieties that seem to be of practical importance.

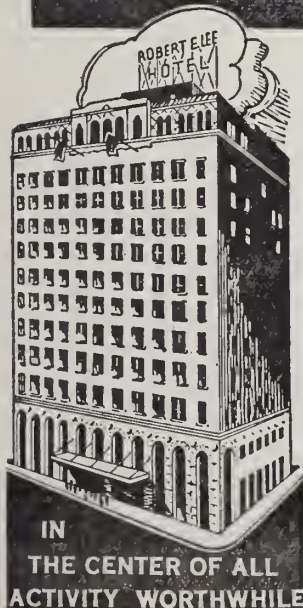
It is well known that haemolytic streptococci may infect domestic animals as well as man, and the question has often arisen, for instance, as to whether all haemolytic streptococci infecting the udders of cows or found in cheese are the same as those producing disease in man. This is an important matter from an epidemiological point of view. It is now possible to show that the animal strains differ from the human strains in this particular. This differentiation has been accomplished by a study of cultural characteristics and by a special precipitin reaction developed by Lancefield. Tillett and Garner, by a technique to which I will refer later, have added another means which will probably allow one to distinguish strains of haemolytic streptococci that are pathogenic for man from those that are pathogenic for animals.

The subject is so large that I must confine myself almost exclusively to the infections produced by B. haemolytic streptococci, pathogenic for man. This group of organisms, for it is probably a group containing a great many strains with slightly different properties, is at present by far the most important.

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streptococci, which occur either aerobically or anaerobically, what appears to be a new variety has recently been described by Dr. Long and Dr. Eleanor Bliss working in the Medical Clinic of the Johns Hopkins University. This form of haemolytic streptococcus is characterized by the very minute size of the

Lancefield, Rebecca: Serological differentiation of human and other groups of Haemolytic Streptococci. *J. of Exp. Med.* 1933;; 57; 571.

Long, Perrin H. and Bliss, Eleanor A.: Studies upon minute hemolytic streptococci. I. The Isolation and cultural characteristics of minute beta hemolytic streptococci. *J. of Exp. Med.*, 1934; 60; 619.

Long, Perrin H. and Bliss, E. A. and Walcott, Charles F.: *Ibid.* II. The distribution of minute hemolytic streptococci in normal and diseased human beings. *J. Exp. Med.*, 1934; 60; 633.

colonies and the smallness of the organism. It is undoubtedly due to the fact that the colonies are so small and do not appear visible to the naked eye for 36 to 48 hours on blood agar plates that the organism has previously escaped observation. It causes characteristic hemolysis of the Beta type and grows aerobically. It has been found occasionally in subcutaneous abscesses and in infected paranasal sinuses. Drs. Long and Bliss cultivated it most frequently, however, from the throat and tonsils. It is found in comparatively few normal individuals, occurs about half as frequently as do the ordinary Beta haemolytic streptococci in normal throats. It is rarely associated with such acute infections as scarlet fever and acute tonsillitis. It was present, however, in about half of fifty-nine patients suffering from rheumatic fever and in thirty-three out of forty-two patients ill with glomerular nephritis. More recent studies show that this organism is present often in enormous numbers in the throats of the majority of patients suffering from haemorrhagic nephritis during the acute and chronic stages of the disease. Up to the present time they have found the organism very rarely in patients who have recovered from acute nephritis.

Some strains of haemolytic streptococci have the power to spread from person to person causing in each one the same type of disease, such as scarlet fever or erysipelas, but on occasions the same strain may produce in addition local infections of the ear, the tonsils, the lymph nodes or uterus, and at other times rapidly fatal septicaemia.

It was thought at first by Dochez and Bliss, and Dochez and Stevens that the strain of *S. haemolyticus*,

Birkhaug, in particular, have reported observations to uphold this point of view. The later work of Dochez and Stevens has shown, however, that on account of interagglutination between strains from scarlatina, from erysipelas and from other unrelated sources a sharp distinction cannot be made into different biological strains, even though many of the strains from scarlet fever and erysipelas form fairly compact groups. Wheeler concludes that the haemolytic streptococci associated with epidemic sore

(1) Dochez, A. R.: The etiology of scarlet fever. *Medicine*, 1925; 4; 251.

Dick, F. F. and Dick, G. H.: Specificity of soluble toxins produced by Hemolytic Streptococci. *J.A.M.A.*, 1929, 93; 1784.

Birkhaug, K. E.: Erysipelas. *J. of A.M.A.*, 1926; 86; 1411.

Dochez, A. R. and Stevens, F. A.: Studies on the Biology of Streptococcus. *J. of Exp. Med.*, 1926; 43, 379; 44, 439.

Wheeler, M. W.: Streptococci from cases of epidemic sore throat, scarlet fever and erysipelas. *J. of Prevent. Med.*, 1930; 4; 1.

throat, scarlet fever and erysipelas cannot, by any method now available, be separated into specific groups, while Wadsworth from a study of a vast number of strains concludes that it is impossible to differentiate any specific varieties. Lehmann, who has recently reviewed this subject would leave the question open for further investigation. The importance of this matter will be evident when we come to discuss the treatment of streptococcus infections.

The difference in the character of diseases for which *S. haemolyticus* is responsible may depend as much on the individual infected as upon the strain itself. In this respect it is necessary to consider both the characteristics of the organism and the reactions of the host.

Streptococcus haemolyticus possesses three properties in common with many other organism, first varying degrees of virulence, secondly the power to produce a toxin as demonstrated by Dick and Dick, and thirdly the ability to invade tissue.

Though we know little about the important question of virulence, Dawson and Olmsted have recently shown that the virulence of streptococcus haemolyticus

Wadsworth, A. B.: The hemolytic streptococci and antistreptococcus serum in scarlet fever. *J. of Pub. Health*, 1929, 19; 1287.

Lehmann, W.: Streptokokken erkrankungen. *Erg. d. Inn. Med. u. Kinderheilk.*, 1931; 40: 604. *Bakteriologie und Klinik der Streptokokken erkrankungen. Erb. d. Immunitätsfch.*, 1930; 11; 220.

Dochez, A. R. and Bliss, W. P.: Biological study of haemolytic streptococci from the throats of patients suffering from scarlet fever. *J. of A.M.A.*, 1920; 74; 1600.

Dochez, A. R.: The significance of Streptococcus Haemolyticus in scarlet fever. *J. of A.M.A.*, 1924; 542. *Proc. Soc. Exp. Biol. & Med.*, 1924; 21; 184.

Dochez, A. R. and Stevens, F. A.: Studies on the biology of streptococcus. *J. of Exp. Med.*, 1924; 40; 253; 493.

shown by them to be the cause of scarlatina (1), was a specific biological variety.

Arguments similar to those cited have been used to differentiate a strain of *S. haemolyticus* as the specific cause of erysipelas. Dick and Dick and

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is closely connected with the phase of its growth. Mucoid colonies of encapsulated organisms furnish highly virulent bacteria, while smooth colonies furnish organisms of less virulence. Furthermore the mucoid capsule contains a precipitable substance which precipitates with immune serum and the organism in this phase is therefore comparable to the pneumococcus.

The toxin production is very irregular, some strains such as N. Y. 5 furnish a very potent toxin, others produce practically no toxin, or a very weak toxin. The toxin when injected into the skin of susceptible human beings and of some animals, such as white goats and a few breeds of rabbits causes a local reaction known as the Dick reaction. Filtrates from growths of most haemolytic streptococci contain another substance derived apparently from the protein of the organism which also produces a skin reaction, which however is probably of entirely different significance from the Dick reaction.

The third quality, namely that of invasiveness, is of great importance. Upon it depends the rapidity with which the organisms spread from the point of infection into the surrounding tissues. It is a matter of such practical importance that it will require more detailed examination later.

There are undoubtedly many conditions of the host that modify or accentuate these properties in the attack upon the host. Among the most obvious ones are (1) the degree of antitoxic immunity or the lack of this property, and (2) the sensitization of the tissues to the haemolytic streptococci. There are other less well defined factors that must also be considered. Among these are the presence of antibodies of various types; the ability of the body to mobilize them; the condition of the tissue cells, and the so-called constitution of the individual.

The great variations in the forms of disease produced by haemolytic streptococci are in all probability to be explained by the predominance of one or another of the qualities possessed by the haemolytic streptococcus in combination with the exaggeration or suppression of one or another of the reactions ascribed to the host.

As an example of disease in which intoxication predominates, one may mention scarlet fever; as an example in which the invasive quality of the streptococcus is particularly pronounced one may select an acute cellulitis or lymphangitis and as an example in which invasiveness, intoxication and allergic reactions all play their part one may mention erysipelas.

Let us now amplify these distinctions and consider first scarlet fever as an intoxication somewhat analogous, as Dcchez has said, to diphtheria. Many of the symptoms of scarlet fever, and especially the rash, are now considered to be due to a toxin formed by a localized growth of *S. haemolyticus*. This toxin circulates in the blood of some patients and is excreted in the urine, as has been demonstrated by Trask and Blake, and by Conybeare. That the toxin is directly responsible for the rash, follows from the fact that the rash disappears from isolated areas when antitoxin is injected intradermally.

It has long been known that an attack of scarlet fever confers a high degree of immunity towards this disease, whereas other forms of infection by *S. haemolyticus*, exemplified by tonsillitis and erysipelas,

do not confer a lasting immunity. They may, indeed, render the individual even more susceptible to subsequent attacks. The immunity to scarlet fever may be regarded, therefore, as an antitoxic immunity analogous to that following diphtheria, and the serum of convalescents and of patients who many years before have passed through an attack of scarlatina contains antitoxin. Such patients in addition give

Trask, J. D. and Blake, F. G.: Observations on the presence of a toxic substance in the blood and urine of patients with scarlet fever. *J. of Exp. Med.*, 1924; 4; 1.

Conybeare, E. T.: Skin-reacting substances present in the urine during acute streptococcal infections. *Bull. of Johns Hopkins Hosp.*, 1933; 52; 119.

a negative Dick reaction, which has much the same significance as a negative Schick reaction. Both reactions are good indices of immunity to these two diseases.

The detection of this immunity which is accomplished through performing the Dick test is of practical importance and was referred to by Dr. Kolmer. Hundreds of thousands of tests have now been made and it has been found generally that individuals giving a negative Dick test are immune to scarlet fever and may come in close and constant contact with patients sick with scarlet fever without the fear of contracting the disease (1). As a corollary, individuals giving a positive Dick test are known to be susceptible to scarlet fever. The incidence of positive Dick tests and therefore susceptibility varies greatly in different communities and different ages. In infancy the Dick test is negative but after this period it is positive in only about 10% of persons or children in overcrowded institutions but is obtained in as high as 85% of persons in rural districts.

Immunity to scarlet fever is not necessarily synonymous with immunity to infection by *S. haemolyticus*, for patients convalescent from scarlet fever may develop many complications due to *S. haemolyticus* (Nicholls) and persons immune to scarlet fever are

(1) Dick, G. F. and Dick, G. H.: Scarlet Fever. *Edin. M. J.*, 1934; 41; 1.

Nicholls, E. Infections with streptococcus scarlatinae in persons with scarlatinal immunity. *J. Clin. Invest.*, 1926; 3; 411.

not known to be protected against attacks of tonsillitis, otitis media, erysipelas, puerperal septicaemia or other forms of infection due to *S. haemolyticus*. The immunity to scarlet fever is, therefore, strictly antitoxic and not antibacterial.

The conditions in erysipelas are in many respects different from those in scarlatina. The disease occurs most often either in very young children or in older adults; a single attack does not confer immunity, but predisposes, rather, to subsequent attacks, and the characteristic feature of the disease is an advancing infection of the skin. Though symptoms of gen-

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eral intoxication may be present during the early or late stages of the disease, one of the serious features is the liability to septicaemia from invasion of the blood by haemolytic streptococci (5 of 34 patients, 15%—Sprunt). Francis has emphasized these differences and has shown, in addition, that unlike scarlatina the skin reactivity to toxin increases during convalescence, that toxin is rarely demonstrable in the serum during the acute stage of erysipelas, as it is in scarlet fever, and that though the serum of most patients neutralizes erysipelas toxin during the acute

Francis, T., Jr.: Studies on Pathogenesis and Recovery in Erysipelas. *J. of Clin. Invest.*, 1928; 6; 221.

Sprunt, T. P.: The Prognostic Value of Blood Cultures in Erysipelas. *Bull. of Johns Hopkins Hosp.*, 1916; 27; 300.

phase of the illness, this property unlike the condition found in scarlatina disappears during convalescence.

It is justifiable to conclude from the data available at present that scarlet fever is an illness characterized during the acute stage by intoxication; while erysipelas exemplifies a disease notable for the rapid invasion of tissues at onset.

I have already indicated that single and repeated infections by haemolytic streptococci other than scarlatina are likely to predispose to subsequent infections by this organism. Such a state of affairs has been looked upon by many as one of bacterial sensitization or allergy. The exaggerated reaction of the skin to injections or solutions of nucleo-protein from the streptococcus is, unlike the toxin reaction or Dick reaction, generally assumed to be dependent, at least in part, upon the development of a state of allergy, and is interpreted as a rough measure of the degree of sensitivity to the *S. haemolyticus*.

Recurrent erysipelas affords an illustration of the probable sensitization of the individual to haemolytic streptococci. It is well known that erysipelas, particularly of the lower extremities, is very likely to recur. In some statistics relapses have been noted in 17% of the cases. As many as six to eight relapses have been recorded in a single individual. These have been attributed either to reinfections or to the action of toxins upon a region of the skin sensitized by previous infections. It is remarkable that the relapse frequently involves the exact area of the skin that was originally involved. In such cases the relapse is likely to be much milder than the original attack, of shorter duration, less painful, and is sometimes unaccompanied by fever. Amoss, Hansen-Pruss and Bliss found that the skin of the area liable to relapse in such patients was much more sensitive to the filtrates of streptococci than the skin of the rest of the body. Since streptococci have been found in the tissue of the area involved during relapse, it is unlikely that the lesion is due exclusively to the action of toxin; for it is more probable that the area is sensitized and that the tissues react more violently than the normal skin to a minute dose of *S. haemolyticus*. The sources from which these streptococci come are often found to be insignificant points of infection. Amoss has emphasized the importance of excoriations between the toes that are present in dermatophytosis.

We have studied a number of these cases of recurring erysipelas of the lower extremities in which

demonstrable infection of the skin between the toes by trichophyton was present. The recurrence of the

Amoss, H. L., Hansen-Pruss, O. C. and Bliss, E. A.: Erysipeloid reactions as an allergic response. *Trans. Ass. Am. Phys.*, 1928; 43; 269.

attacks of erysipelas ceased after the dermatophytosis and through vigorous treatment been eliminated.

It is most often in the chronic streptococcus infections that the skin reaction to filtrates of *S. haemolyticus* or to their nucleoproteins is most marked. This condition is reported in chronic infectious arthritis or rheumatoid arthritis, is very common in both the acute and chronic forms of haemorrhagic nephritis and is observed in patients suffering from rheumatic fever. Although there is considerable doubt as to whether rheumatic fever is due to haemolytic streptococci, there is little question that most instances of haemorrhagic nephritis must be regarded as a form of acute or chronic streptococcus infection and there is considerable evidence to show that rheumatoid arthritis is in some way associated with infections by haemolytic streptococci.

In the very acute forms of infection by *S. haemolyticus*, however, in which the local spread is rapid, and invasion of the blood takes place early, evidences of sensitization of the tissues are usually lacking.

Undoubtedly the states of antitoxic immunity, of partial bacterial immunity and of hypersensitiveness have much to do with the character and severity of many infections by *S. haemolyticus*. In addition to these factors the variations in toxin production, the virulence and the invasive power of the infecting organism must be of great importance. The rapidity with which streptococci may invade the body and produce disease is almost unparalleled by any other infective agent. The incubation period for most infections by *S. haemolyticus* is one to two days and this may be reduced to hours. Infections by highly virulent organisms may kill the patient in two or three days. For this reason it is imperative to examine in some detail the most recent information concerning the factors involved in the spread of haemolytic streptococci in tissues.

Menkin has investigated the causes for the fixation of bacteria in the subcutaneous tissues. He came to the conclusion that the reaction which was of the most importance in bringing this about was the for-

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mation of fibrin in the inflammatory area which by blocking the tissue spaces and thrombosing the lymphatics prevented the spread of bacteria. Under these circumstances a mechanical barrier was set up against the invading bacteria. Duran-Reynals has also studied the same question but has approached it from another angle. He found, originally, that testicular ex-

Menkin, V.: An aspect of inflammation in relation to immunity. *Arch. of Path.*, 1931; 12; 802.

Duran-Reynals, F.: The effects of extracts of certain organs from normal and immunized animals on the infecting power of vaccine virus. *J. of Exp. Med.*, 1929, 50; 327; 341.

tracts injected with vaccine virus enhanced, to a marked degree, the size of the vaccinia lesion in rabbits. Testicular extracts also caused an increase in the size of the local cutaneous lesions produced by many bacteria, including *S. haemolyticus* (Pijoan). More recently Durar-Reynals has found that this property is contained in some bacteria themselves. It was only present, however, in the extracts from invasive strains of staphylococci and streptococci. Extracts from invasive strains of streptococci were capable of converting non-invasive strains into invasive strains when injected into the tissues with them. The importance of these findings for the interpretation of the spread of bacteria through the tissue is apparent. Recently Menkin has observed that certain strains of haemolytic streptococci are not fixed at the site of inoculation for many hours. An examination of the subcutaneous tissues showed that under these circum-

stances the fibrin barrier failed to appear, so that the bacteria spread without interference into the surrounding tissues.

Pijoan, M.: The action of testicle, kidney and spleen extracts on the infective power of bacteria. *J. of Exp. Med.*, 1931, 531; 37.

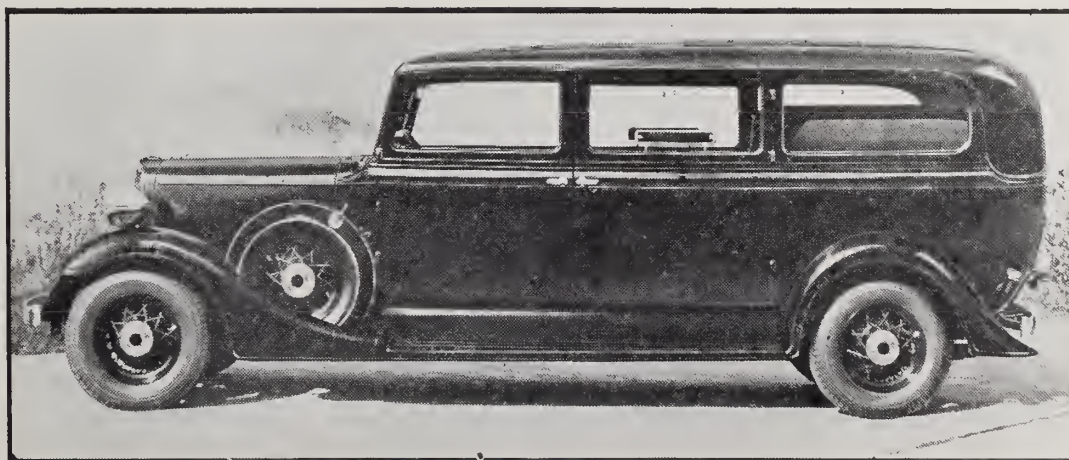
Duran-Reynals, F.: Studies on a certain spread factor existing in bacteria and its significance for bacterial invasiveness. *J. of Exp. Med.*, 1933, 58; 161.

Menkin, V.: Further studies on mechanism of invasiveness of pyogenic bacteria. *Proc. Soc. Exp. Biol. & Med.*, 1934, 32; 162.

Some recent work which Dr. Tillett and Dr. Garner have conducted in my clinic at the Johns Hopkins Medical School may well throw much light on this entire question of the invasion of tissues by haemolytic streptococci. They have discovered that living haemolytic streptococci elaborate a ferment which will dissolve with considerable rapidity a fibrin clot of blood plasma. This ferment is produced during the growth of the streptococci, and can be demonstrated in culture filtrates. An interesting feature is that the ferment formed by haemolytic streptococci from human sources is only active against fibrin of human plasma. It will not dissolve the fibrin of the plasma from rabbits, guinea pigs, cows, or from other animals tested. The plasma clot from most normal individuals is readily susceptible to fibrinolysis, but Tillett and Garner have made the important observation that the plasma clot from patients convalescing from acute infections by haemolytic streptococci is highly resistant to fibrinolysis. This resistance to

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Tillett, W. S., and Garner, R. L.: The fibrinolytic activity of hemolytic streptococci. *J. of Exp. Med.*, 1933; 58; 485.

Tillett, W. S., Edwards, L. B. and Garner, R. L.: Fibrinolytic activity of hemolytic streptococci, the development of resistance to fibrinolysis following acute hemolytic streptococcus infections. *J. of Clin. Invest.*, 1934; 13; 47.

fibrinolysis seems to be associated with the reactions of the body concerned in combating the infection. When the infection is spreading the plasma clot remains readily susceptible to solution by the fibrinolytic principle contained in active cultures of hemolytic streptococci. The recent observations of Menken and of others are in accord with these experiments of Tillett and Garner and it seems probable that this newly discovered property of haemolytic streptococci may be very important in furnishing a better understanding of the principles involved in the invasion of tissues by haemolytic streptococci. It is possible, too, that the comparatively simple test which they have devised may furnish valuable information as to the progress of infections by this organism.

In many instances of infection by haemolytic streptococci there is an invasion not only of the tissues, but of the blood stream. When this occurs the conditions become extremely serious. In some forms of infection, such as tonsillitis, except in the epidemics of septic sore throat, and in others such as empyaema, we know that invasion of the blood by haemolytic streptococci is rare; on the other hand, in puerperal sepsis and in mastoiditis we know that invasion of the blood stream is comparatively common. Being desirous of obtaining information about the conditions under which an invasion of the blood stream took place, I have, with the assistance of Miss MacLanahan analysed all the histories that we could collect at the Johns Hopkins Hospital in approximately the last ten years of patients that have shown a growth of streptococci in their blood. Undoubtedly the histories of many such patients were not available, but 249 cases have been reviewed. Ninety-five of these were instances of bacterial endocarditis due to streptococcus viridans and these have been omitted from this analysis. Excluding these cases we have 154 instances of general streptococci infection. All but 14 of these were caused by a haemolytic streptococcus. In the 14 cases referred to the streptococcus was of the viridans type, but we have included them in the general analysis. In three of the remaining cases the haemolytic streptococcus grew anaerobically.

Table 3

Ages of Patients
General Streptococci Infection

Ages	Numbers
0-10	67
11-20	10
21-30	14
31-40	23
41-50	17
51-plus	1
Unknown	1
Total	154

It is interesting to observe that a large proportion of the infections occurred either in children or in comparatively old people. Table 3. There was practically no difference in the incidence between sexes. It may be observed from Table 4 that four forms of

Table 4

Generalized Infections by Haemolytic Streptococci
Distribution of Diseases

	No.	Male	Female	Death	Mort. %
Abscess and Post-operative Infections	39	26	13	26	66.6%
No Primary Focus	36	19	18	28	77.7%
Erysipelas & Cellulitis	26	10	16	22	84.6%
Otitis Media and Mastoiditis	25	10	15	15	60%
Pneumonia	7	5	2	6	85.7%
Endocarditis	5	5	1	5	100%
Puerperal Sepsis	5		5	3	60%
Tonsillitis	4			2	50%
Sinusitis	4			1	25%
Scarlatina	3			3	100%
Total	154	74	70	111	72%

infection furnished 80% (81.8%) of the instances of general infection by haemolytic streptococci. Infections arising in the skin and subcutaneous tissues formed the largest group; infections in which the point of entrance was uncertain were almost as numerous; and otitis media and erysipelas came third in almost equal numbers. The mortality was extremely high, averaging for all groups combined 65%. Excluding the few cases of endocarditis, the mortality was highest in certain forms of pneumonia and erysipelas. It was lowest in the infections of the upper respiratory tract; namely sinusitis, tonsillitis and otitis media.

We were interested to enquire as to the time that might elapse between the primary infection by haemolytic streptococci and the invasion of the blood by these organisms. It was naturally impossible to obtain accurate figures for in many instances blood cultures were not made until several days after the onset of the infection, but it may be seen from Table 5 that a little over one-half (52.6%) of the positive cultures were obtained within the first week of the illness. In 30 cases the approximate day on which

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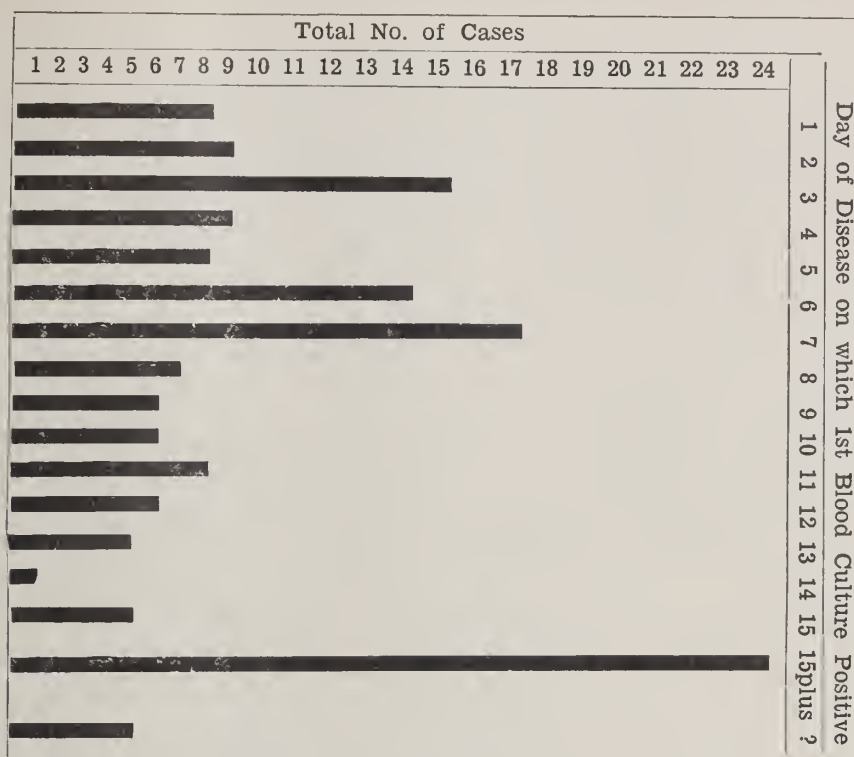


Table 5

there was an invasion of the blood could be determined since the positive culture was preceded by one or more negative cultures. Six of these were in the first 7 days, 16 within the first 15 days, and 8 after the 15th day.

In Table 6 the figures show that the average duration of life in the fatal cases was only 15 days; whereas the patients that recovered had a protracted illness averaging 46 days.

Table 6

Generalized Infections by Haemolytic Streptococci		
Average Duration of Disease in Days		
	Recovered	Fatal
1. Abscess and Wound Infections	56	16
2. No Primary Focus	62	16
3. Otitis Media and Mastoiditis	63	19
4. Erysipelas and Cellulitis	22	9
5. Pneumonia	45	15
6. Endocarditis		26
7. Puerperal Septicaemia	77	25
8. Sinusitis	23	5
9. Scarletina		12
10. Tonsillitis	22	7
Average	46	15

Complications were very numerous, as can be seen in Table 7, and occurred in a large proportion of all

cases. There was, however, some variation in the frequency of complications in the different groups of

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C. FARMER HENDRY,
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DR. E. C. ELLETT
DR. R. O. RYCHENER
Ophthalmology
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Complications Arising during General Infection
by Haemolytic Streptococci

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
																								(25) Pneumonia
																								(19) Subcutaneous Abscesses
																								(18) Arthritis
																								(15) Pyelophlebitis
																								(15) Meningitis
																								(10) Peritonitis
																								(9) Adenitis
																								(8) Empyaema
																								(7) Osteomyelitis
																								(7) Otitis Media
																								(5) Acute Nephritis
																								(5) Abscesses Internal Organs
																								(4) Ligation Internal Jugular Vein
																								(2) Endocarditis, Pericarditis, Erysipelas
																								(4) Impetigo
																								(1) Parotitis

Table 7

cases. Table 8 compares the occurrence of complications in two conditions, first otitis media, in which they were most common, and secondly erysipelas in which they were least common. It is interesting to

Table 8

Complications in General Infection by Haemolytic
Streptococci

Complication	No. in Otitis and Sinusitis Total Cases 33 Complicated 30	No. in Erysipelas and Cellulitis Total Cases 26 Complicated 12
Pneumonia	12	3
Subcutaneous Abscess	10	1
Arthritis and Osteomyelitis	8	1
Pyelophlebitis	8	
Ligation Jugular Vein	4	
Adenitis	5	
Impetigo	3	1
Erysipelas	2	
Meningitis	2	2
Peritonitis	1	3
Empyaema	1	
Acute Nephritis	1	
Abscess Internal Organs	1	
Otitis Media		15
Total Complications	58	15

note that in otitis media and mastoiditis, in which the mortality is low, complications are most numerous, whereas in erysipelas in which the mortality is exceedingly high complications are comparatively rare. In general we have found that the occurrence of metastatic abscesses in the the subcutaneous tissues or muscles, and the development of arthritis or osteomyelitis is common in patients that recover from gen-

eral infections by haemolytic streptococci, and one might regard these metastases as an attempt on the part of the body to localize the infection. Under these circumstances they would not be altogether unfavorable signs.

Having reviewed this data from a statistical point of view, one may now enquire into methods available for treatment.

It is obvious that surgical measures are of paramount importance in an attempt to remove, drain, or eliminate the local reservoir which feeds the blood. In acute mastoiditis, ligation of the jugular vein and removal of the infected blood clot from the lateral sinus may result in complete disappearance of streptococci from the blood stream. In rapidly spreading local infections and in erysipelas it is obvious that surgical procedures are less effective or actually impossible. The bactericidal dyes, transfusion and heliotherapy may be of assistance.

The most effective measure so far devised for the treatment of any form of streptococcic infection is the antitoxic serum developed for use in scarlet fever. Though several earlier attempts had been made it was not until 1924 when Dochez prepared successfully an antitoxin that this method of treatment was made practicable. During the ten years since its introduction the serum has been employed in the treatment of many cases of scarlet fever. It has been found to be effective particularly when it is given during the early stage of the disease in combating the intoxication, lowering the mortality, and, according to the experience of many, in reducing the number

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of complications. The antiserum does not seem to

Dochez, A. R.: Studies concerning the significance of streptococcus haemolyticus in scarlet fever. Proc. Soc. Exp. Biol. & Med., 1924, 4, 184.

have any direct effect upon the course of the complications due to haemolytic streptococci, once these complications have made their appearance.

An antiserum prepared from strains of haemolytic streptococci isolated from cases of erysipelas has also been used in the treatment of erysipelas. The therapeutic problem in erysipelas is different from that in scarlatina, for in erysipelas it is desired particularly to stop the spread locally of the infection. The antiserum does not seem to have much influence upon this phase of the disease though it does appear to affect favorably the symptoms due to intoxication, and, according to Symmers who has treated by this method 705 patients (a very large series) it reduces the mortality. We use antiserum at the Johns Hopkins Hospital both in the treatment of scarlatina and of erysipelas, and though the number of patients is not sufficiently numerous for useful statistics, we have been impressed, particularly, with the value of anti-scarlatinal serum in the early treatment of seriously ill patients. It is dubious whether the use of anti-streptococci serum has been beneficial in puerperal septicaemia or in other forms of general streptococci infection. It may be that by including more and more strains in the preparation of serum, and that by concentrating the serum a therapeutic measure may be developed which will be more potent than the sera now in use.

Even though effective measures could be discovered to treat infections by haemolytic streptococci, it is obvious that prevention of them would be an important step in advance. We have now at our disposal a method which seems to protect satisfactorily against scarlet fever. Dick and Dick first described this method in 1924. They employed for the purpose subcutaneous injections of increasing doses of sterile toxin obtained from the growth of haemolytic streptococci. Five injections at weekly intervals are required to afford a desirable degree of protection, but when this is attained a highly satisfactory immunity results. Protection against scarlet fever by this method of preventive inoculation of susceptible persons has worked very well, according to all accounts. Immunization of susceptible nurses and doctors who come in constant contact with patients suffering from scarlatina, or of college students and school children in times of an epidemic has been found of great value.

One objection to the method is the frequency and severity of the reactions following the injection of

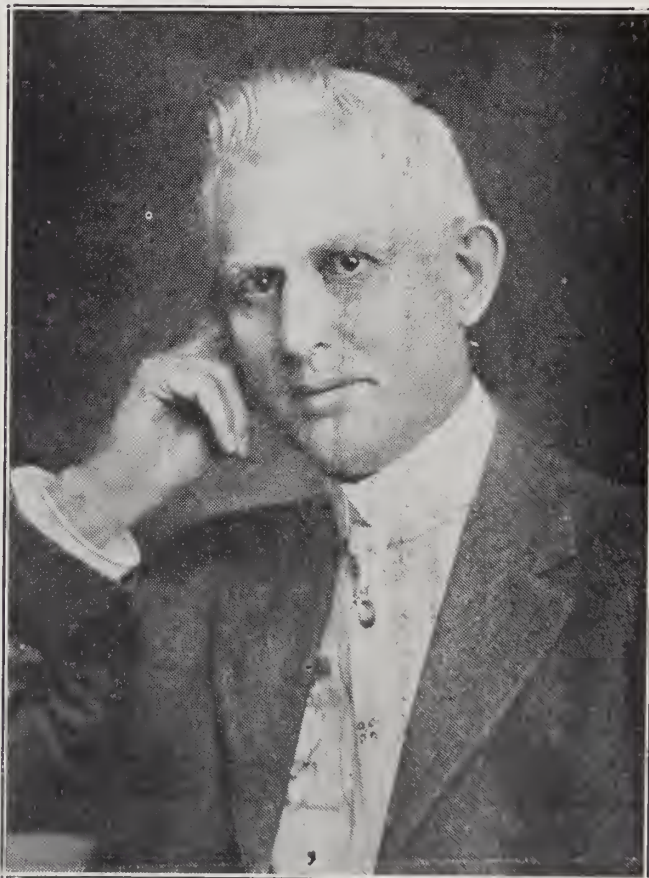
Dick, G. F. and Dick, G. H.: The prevention of scarlet fever. J. of A.M.A., 1924, 83; 84.

toxin. Attempts have been made to obviate this drawback by the preparation of a toxoid, but at present the exact status of scarlatinal toxoid is uncertain.

In conclusion, then, it can be said that infections by the different forms of streptococci are common and dangerous to life. Except for bacterial endocarditis, haemolytic streptococci cause the most serious infections. These are highly diversified in their nature and range from such specific diseases as

scarlatina and erysipelas to wound infections and acute pharyngitis. So far it has been impossible to distinguish specific strains as constant etiological agents in these forms of infection and the variety in the form of the infection seems to depend, on the one hand, upon the biological characteristics of the infecting strain, and, on the other, upon the constitution and peculiarities of the immunity reactions of the host. Scarlet fever, which exemplifies the form of infection in which the toxic action of streptococcus haemolyticus predominates, can be successfully treated by specific antitoxin and may be prevented by immunization with toxin. It is quite possible that some other forms of infection by haemolytic streptococci, which are characterized especially by intoxication, may be benefited by injections of antitoxin. Erysipelas, on the other hand, is characterized by an invasion of the tissues by haemolytic streptococci, and infections of this nature are not controlled by antitoxin, though the toxic manifestation of the disease may be favorably affected. Local infections must be subjected to surgical procedures, aided by treatment with chemicals and bacteriocidal or batenostatic dyes.

President of the North East Mississippi 13 Counties Medical Society



S. R. DEANES

At our last meeting at Tupelo it was Clay County's time to furnish a president and it was an honor well and worthily bestowed to elect Dr. S. R. Deanes.

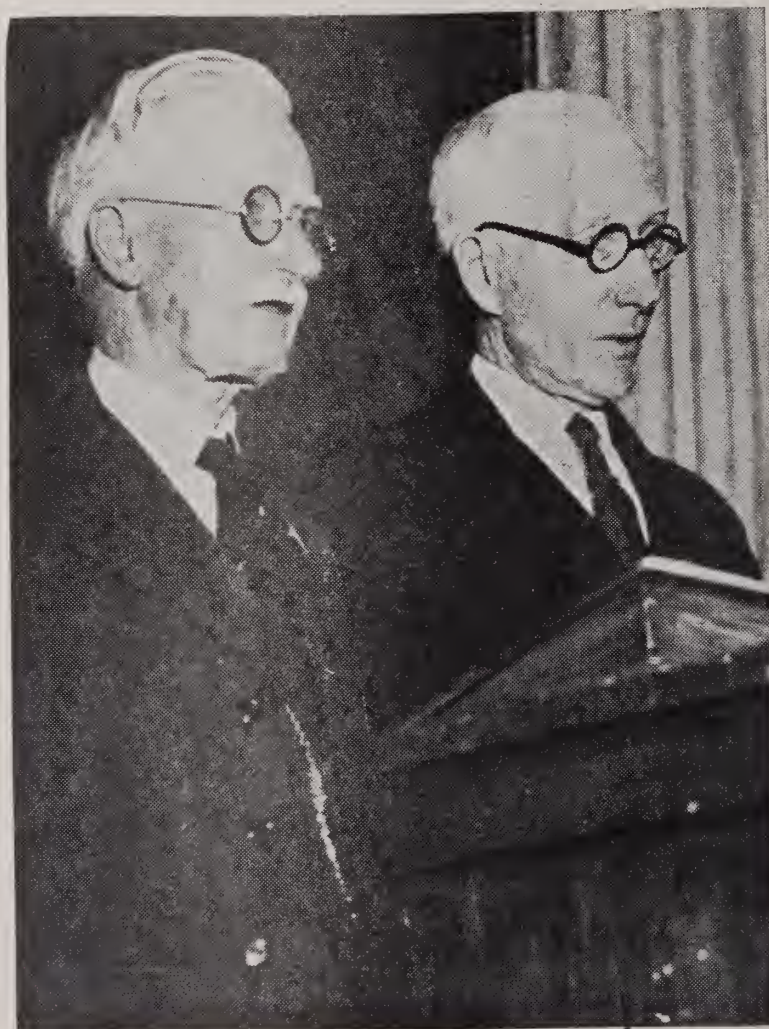
In February 1882 he entered the office of Dr. T. G. Ivy to study medicine. On March 3, 1883 he graduated from University of Louisville, Ky. He located at his old home, Palo Alto, Miss., immediately where he practiced for 18 years. On January 3, 1903 he moved to West Point where he has practiced since that time. In 1906 he did three months Post Graduate work in Tulane. He has done general practice, but at the same time has taken care of about all the general surgery that came in his line of duty. In 1891 he opened the first abdomen opened in his county. It was a case of locked bowel. In 1894 he diagnosed and operated the first case of appendicitis known in his county up to this time. The operations were performed on improvised tables out in the country. The patients recovered.

He attended his first meeting of the State Medical Association at West Point in 1884. Dr. J. B. Gresham, of West Point, presided as president. At this meeting one of the most prominent physicians argued strongly against the theory of the tubercle

bacillus being the cause of tuberculosis. The meeting of the 13 counties will be held in the same hall it was in 1884. In 1884 the average span of life in this country was thirty-seven years. It is now fifty-seven, more than fifty per cent having been added to it. This is a monument largely constructed by preventive medicine Dr. Deanes believes.

Dr. Deanes is a very remarkable character. He has a very retentive memory. He is a very close observer. He is quite widely read. He enters into the pleasures and joys and sympathies of his people. He is brim full of wit. He can see the humorous side as well as the serious. But few men if any in this state have any more medical and surgical knowledge at their command than does Dr. S. R. Deanes. He is equal to the occasion any time. In addition to his high rank as a physician and surgeon, he is a very valuable citizen. It gives the North East Mississippi 13 County Medical Society much pleasure to do him honor. A large attendance at West Point will no doubt attest this fact.

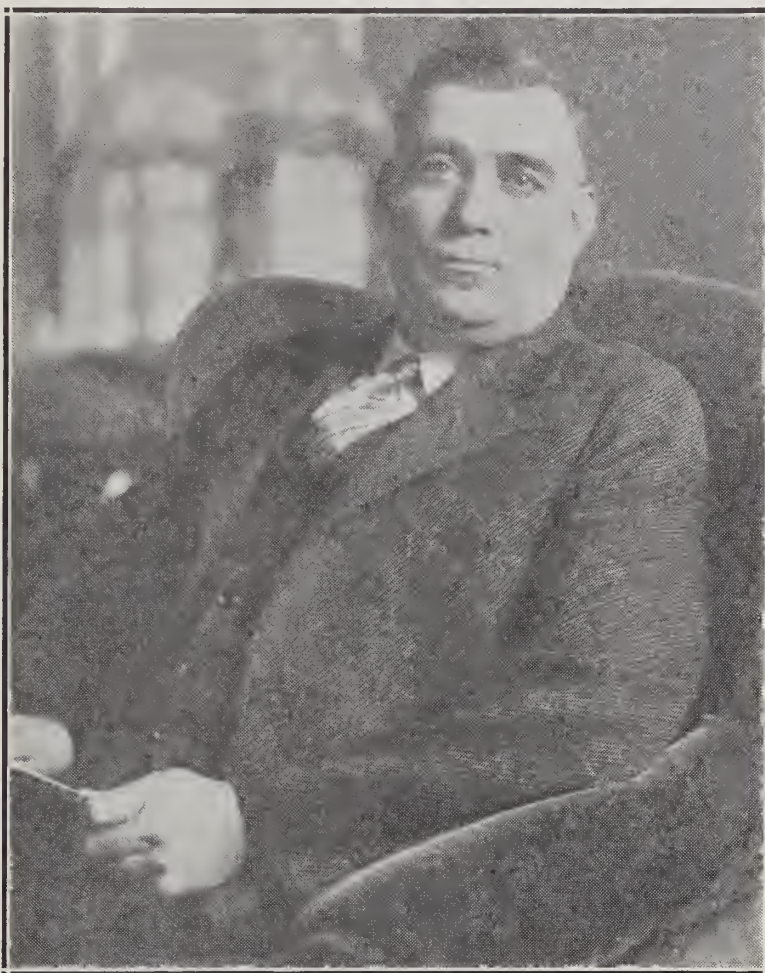
Old-timers Meet Again



Dr. G. V. Gillespie, 90, Covington, and Dr. P. W. Rowland, 74, Oxford, Miss., Mid-South Post Graduate Medical Assembly president, both charter members of

the organization. met yesterday after 52 years.—Courtesy Commercial Appeal.

Beloved Doctor Dies



DR. W. M. MARSH

The death of Dr. W. M. Marsh, of Ripley, removed from action one of the leading practitioners of Northeast Mississippi. He was well versed in the practical side of the practice of medicine. He might not have known as much scientific medicine as some doctors, but he knew more about the individual patient than many of them. It is just as important to know the patient in all of his relations to life as it is to know the bacteria that attacks his life. Dr. Marsh gave personal attention to every patient. He did a big practice. He had a world of friends. He had just

reached his most useful period in the practice of his profession, which reminds us that the wear and tear on the busy practitioner is taking many of them before their allotted time is used up. The medical profession has had the biggest burden of any to carry during the depression. Their burden generally speaking has been heavier than they should have been expected to carry. Dr. Marsh was tender of heart and a loyal friend. We extend to the devoted wife, the son and daughter, the relatives our sincerest sympathy.

Presidential Address—Mid-South Post Graduate Medical Assembly

P. W. ROWLAND, M.D., F.A.C.P.

Professor of Pharmacology, University of Mississippi
School of Medicine

REFLECTIONS—WISE AND OTHERWISE

Once upon a time, some three hundred or more years ago, there lived a certain French philosopher.

His name was Descartes. It is not in the record that he ever practiced medicine, or that he was ever in close contact with men of medicine, but he must have known a great deal about the traditions and aspirations of the profession. This is to be found among his writings. "The mind is so intimately dependent upon the condition and relation of the organs of the body, that if any means can be found to render men wiser and more ingenious than hitherto, I believe that it is in medicine that they must be sought for." This is a tremendously gripping statement for the Doctor of Medicine. It places a heavy responsibility upon his profession. In these days when men are so

superlatively wise and ingenious, does the medical profession care to lay claim to priority in bringing about the present state of intellectual, moral and physical cussedness?

Have you ever, at any time, been conscious that such a responsibility, not to say, distinction, rested upon you? I, for one, wish to disavow, here and now any connection the medical profession has had in bringing about the present state of mind of the people of this or any other country. The truth of the matter is that we have become so top heavy with wisdom and ingenuity that men are wondering if it is not now time to take heed lest we fall. Some good people think that it has just about wrecked our civilization. It seems also that we have just discovered that those who become wiser and more ingenious are those who have what they are big enough to take, and in the taking leave little for forgotten man. My own reflection in regard to the matter is that our present social order will not be improved by making men "wiser and more ingenious than hitherto."

We are certainly possessed of great knowledge, even a super-abundance, but wisdom is something more than accumulated knowledge. "Knowledge and wisdom, far from being one, have oftentimes no connection. Knowledge dwells in heads replete with thoughts of other men, wisdom in minds attentive to their own. Knowledge, a rude unprofitable mass, that does but encumber whom it seems to enrich. Knowledge is proud that he has learned so much. Wisdom is humble that he knows no more." But I reflect that this has become a world of wise-cracking, so much so that in some quarters, at least, wise-cracking has become synonymous with wisdom. Even as wise a man as old Benjamin Franklin is reputed to have been said that the "best Doctor is he that knows the worthlessness of most drugs". Sometime later a wise man of Detroit, a teacher in a medical school, said this to his students. "Diagnosis is the thing, any damphool can treat disease." The adaptability of these wisecracks is, perhaps, not open to question, but it has become downright painful to reflect that the best thing to do with our students of medicine is to apply such tests as will determine their aptitude, selecting those who make a grade of ninety and above to study diagnosis, and those who make a grade below ninety, the damphools to treat the sick. It is still more painful, under the application of these tests, to reflect that all the damphools might be found in the ranks of the practitioners, which would be pleasing no doubt, to our friends the specialists. On still further reflection it becomes downright humiliating to read that one of our great American surgeons has recently qualified as an accomplished wise-cracker when he said that "A practitioner is one who knows more and more about less and less". Coming from such a distinguished source this wisecrack deserves consideration, but a practitioner must assuredly be pardoned, if, under such provocation he is led to humbly observe that a surgeon is one who knows less and less about more and more.

If we are progressing in the kind of wisdom that enables one to distinguish between what is true and what is false, between what is proper and what is improper, well and good, but it is the wisdom of the cunning, the wily, the crafty, the subtile, the wary, against which I protest. If we are to become more

ingenious in matters of art or science, very well, but if our ingenuity is to express itself in slyly, cleverly and cunningly endeavoring to supplant one's neighbor, or to take from him that which is rightfully his, then I am against the medical profession making any contribution towards the increase of any such wisdom and ingenuity.

We hear much today of the "New Deal" and of codes; codes for this and codes for that; codes for the farmer, codes for the banker, codes for the industrialist, and codes for the laborer. The Doctor has had a code low these many years, two thousand or more, and, considering the kind of world he lives in, he has observed it fairly well, but it is very doubtful if it has added anything to the sum total of wisdom and ingenuity of mankind.

Apropos of the "New Deal" let me quote from a speech delivered by one of the high priests some months ago and published in the Commercial Appeal. This is what he said: "I am hoping that the new deal will mean a new age not based on individualism. I am hoping that we can reach somewhere to an inner strength and power, through religion, through art, through literature, if it may be found in any of these, for the soul of an educated democracy, willing to practice the sermon on the mount, not in a vague pious way, but in a personal way, through our relations with our fellow man. Let us take this thing and make it grow and live, like a heart. When it does, with that heart as a dynamo of social machinery, we can enter into our heart's desire."

A beautiful ideal, but absolutely unattainable unless based on individualism. His very ideal is essentially individualistic, enunciated by the only perfect Individual the world has ever known, and it can only be made effective through the individualism of His followers. His followers are enjoined to keep themselves unspotted from the world. What are the virtues but individualistic? "The heart of man is full of deceit and desperately wicked." Humanity has no virtues; like sheep it follows its leader right or wrong and left to itself perishes like dry rot. Intellectual and moral honesty, generosity, courage, humility, love, and self sacrifice find their fullest expression in the heart of the individual, not in the masses. The world can be saved only by individualism. Leaders who stand out from the herd, whose purpose is sacrificial, who have the courage to practice the virtues of the new deal, these are the men who are needed. Stifle individualism! What of Calvary without a Christ? What of the Reformation without a Luther? Waterloo without a Wellington? Yorktown without a Washington? Appomattox without a Lee? What of medicine without a Sydenham, surgery without a Lister? What of the present renaissance of creative effort at work in our country without a Roosevelt? Stifle individualism, yes, the Ananiases and the Shylocks in the trades, in politics, in the professions and in religion, show them no mercy, scourge them from the temple with the cat o'nine

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tails.

What is it in the character of the man in the White House at Washington that so kindles the imagination of the American people? It is his individuality, finding expression in the exercise of superb courage, and an intellectual and moral honesty, coupled with an admirable type of humility not often found in great men. But it is not to be supposed that virtues such as these are the attributes of only men of high degree. They are not universal, indeed not common, but they may be found among the lowly of the earth; they are individualistic and all powerful. The heart for which the New Dealer is seeking must be a responsive heart. He will not find it in the upper crust of society which arrogates to itself the right to prescribe and to possess. Nor will he find it in the lower stratum whose purpose is to plunder. but in the middle layer, the buffer between the upper and the nether crusts of society. This is the heart for which the New Dealer is groping, this is the dynamo of social machinery, through which he hopes to enter into his heart's desire. The working of this machinery is effective only in the heart of him who is not only willing but who has the courage to affirm that as for me and my house, we shall love justice, show mercy and acknowledge the Lord God. The medical profession refuses to surrender its individuality, because only through his full, free and unhindered contact with his patient can the Doctor fulfill his heart's desire, to practice the precept of the Master when He said: "Inasmuch as you have done it to one of the least of these you have done it to Me!"

Codes: They seem to me to be a reversal to the primitive. They are akin to the ancient guilds of the tradesman and the artisan. They encourage greed and an aggressive selfishness. They destroy the balance of opportunity, and disturb the fair distribution of the profits of mental and physical toil. The greatest good to the greatest number would seem to be a safe guide in the regulation of the social order, and it is endorsed, perhaps, by the majority of good people, but under its operation the minority never has received just treatment. If in my daily contact with my neighbor I do that which is beneficial to myself but hurtful to my neighbor, good people will condemn me, and rightly so. If, however, while my neighbor is harmed, it should happen that twelve of my other neighbors are benefitted, then good people uphold me, and it seems to be right. What then becomes of the right of my single neighbor, the minority, who has been injured? Public opinion does not condemn me, and if he seeks restitution through the courts, the preponderance of the positive side is so overwhelming that he has no chance to recover. My neighbor has only one recourse. Not through co-operative effort, not through codes, not through unions and guilds, but I, myself, must practice the sermon on the mount in a personal way through my relation with my neighbor. So to my mind "no soul of an educated democracy willing to practice the sermon on the mount" will ever be found. The willingness must be found in the soul of the individual.

What the country needs today is not a good five cent cigar, but a good brand of common honesty. The recognition, on the part of the individual, that he is under a moral obligation to treat his neighbor fairly.

Not so many years ago I heard an Ex-Governor of a great State on the witness stand in Federal Court as a defendant in a suit brought by his partner for the purpose of recovery of property which he, the plaintiff, claimed was legally and morally his, give this reply in answer to the question propounded by the lawyer for the plaintiff. "And you, Governor, knowing that you could profit very materially, and taking advantage of the fact that your partner was ignorant of any deal of this sort going on, and that he was entitled to his share of whatever profits should accrue through the deal, deliberately made the trade and took the profit, all of it at the expense of your partner." "I did," replied the Ex-Governor. "How do you justify yourself for such a proceeding?" inquired the attorney for the plaintiff. "Well I knew he would do the same thing if he had the opportunity," replied the Ex-Governor.

Diogenes, in his day, tried to find an honest man. I wonder if he would be more successful could he make the quest today. He must have been an honest man himself, because he was a pauper and lived in a tub. In my experience I have observed that there are very, very many people who base their conduct upon the assumption that the inevitable sequence of being honest is pauperism and a tub.

Oh, by the way, what has become of the general practitioner, the family doctor? I am reminded here of the good brother who was afflicted with a hare lip. Being present at a very enthusiastic Methodist experience meeting, he was called upon by the Bishop to rise and tell the brethren of the many blessings the Lord had vouchsafed to him. He arose and very feelingly replied, "Brethren I tell you, the good Lord has mighty night ruined me." Under the impact of the social reformers, organized groups, and numerous specialties, he, the practitioner, is "mighty night ruined." His tail feathers have been plucked and he is very humble. All through the ages, the highest type of altruistic individualism society has ever known, the backbone of the medical profession, the largest contributor, perhaps, to humanity, intellectually, morally, and physically, he is now prodded with the high cost of medical care, and asked to submit himself to the guidance of a group of reformers, within and without the profession, who would mete out to him a share of organized society, for whose physical, moral, and social well-being he is to be held responsible at so much per head per family, with ten per cent going to the overlord of this particular group. I submit a better plan. Let the farmers unite, pool their resources, build medical schools for the education of Doctors who are to minister to their particular group. Let the preachers, lawyers, and teachers do the same. Let organized labor, also, build its special schools for the education of their youth, who will have the exclusive care of their order. Let the business men of the country, the bankers, the industrialists, the great white collar class, take over

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the present schools for the training of their youth, and then turn over the reformers to the present group of practitioners for their special prey. Whatever you may think of the plan, one thing is certain, the present disturbers of the social order will receive a much needed purge. These people are soaring high. Their wings need clipping. They are living in an intellectual stratosphere of so-called social science, where their brains become stiffened with the frigidity, and where those who treat the sick, even the sick themselves, if allowed to enter, would stifle and shrivel into a state of "innocuous desuetude."

But what of my colleagues, the specialists? I would not be unmindful of them, because they are the apprentices of the practitioners, though I am afraid they do not realize it. Who, when and where is the specialist? At what point in the practice of medicine does specialism begin and at what point does it end? Practically, it seems to me to work out according to a graded scale, somewhat like a thermometer, the place of the practitioner at zero, with relative positions of the various groups ranging from zero to boiling point, depending upon how hot the particular group makes it for the patient.

A wayfarer is apt at some time or other in his meanderings to get something in his eye. He doesn't know how to remove it himself, so he seeks help at the nearest point, which happens to be at the office of the country practitioner. He tells the doctor that he has something in his eye. The Doc looks and tells him that he does have some sort of a speck

there, and with a drop of cocaine and a cotton mop he painlessly and expeditiously removes the speck. How much Doc? One dollar sir. Much obliged Doc. and the traveling man goes happily on his way. But he is still liable to get something in his eye, and it happens to be in the big city this time. He seeks the big clinic where he knows he will find the ophthalmologist. He enters the reception room where an obliging female invites him to have a seat. He proceeds to do so, where he remains for quite a time it seems to him, looking at the pictures and trying to read in the magazine "The Secret of the Confessional." He finally gets to see the Doctor, states his case, and is told, after a thorough examination with a powerful magnifying glass, that undoubtedly there is a foreign body there and that immediate removal is necessary. With the help of the nurse and his young assistant, he removes the foreign body painlessly and expeditiously. How much is my bill Doctor? My bookkeeper will inform you sir. The traveling man pays his ten dollars and goes happily on his way. Which of the two, in the estimation of the traveling man, is the most able and competent Doctor?

You can't analyze a situation like that. It is nonanalyzable. The Doctor opens a boil and gets a dollar for it, maybe. The surgeon does a radical operation for the complete enucleation of a furuncle, and receives a fee of twenty-five dollars. The Doctor's patient thinks no more about it. The surgeon's patient writes a brilliant description of it, and dis-

THE PONTOTOC CLINIC



The above is a picture of the New Pontotoc Clinic recently established by the Drs. Rayburn. This clinic is prepared to care for medical, surgical, obstetrical, X-Ray and Laboratory work and is an open institution.

poses of it to magazine for a thousand dollars. Selah. I should like for my friends the specialists to read Doctor William Allen Pusey's wonderful little books, "A Doctor of the 1870's and 80's," and "Medicine as a Career." There is one paragraph in the latter to which I would like to call your attention. It is this, "Doubtless God might have made a better man than a Doctor, but doubtless he never did."

I would have you note that nothing is said of Pediatricians, Obstetricians, Chirurgericians, Ophthalmologists, Oto-laryngologists, Dermatologists, Urologicians, Neurologicians, Psychotherapeuticians, Radiologists, Cardiologists, Orthopedicians, Syphilologists, Endocrinologists, Organotherapeuticians, Gynecologists, Beauticians, Mortic-

ians, the good Lord help us and give us more good doctors.

However, take heart my friends the specialists. You deserve very little of the future because of your past, but I am going to ask Saint Peter to let you enter through the pearly gates into that delectable paradise where all good doctors go, and where you will be permitted to sit at their feet, and sing paeans of praise to the host of mighty practitioners of the past, and where your former office girls, now become houris of this heavenly eden, garbed in diaphanous sheens of angelic purity, will give you to drink of sweetest netcar from pitchers of silver and of gold. SELAH!

In Memoriam



DR. A. G. PAYNE
Greenville, Miss.

The enemy of life, the general of death, the captain who has never lost a battle, has twice asserted himself in this Association within the last ten years and two noble members responded to the call while serving as President. On the first of August, 1934 he gave another command and Dr. A. G. Payne of Greenville, responded. Three years ago he was presiding

over this Association as president. He passed away at the age of sixty-six. He was a graduate of Mississippi A. & M. College, Kentucky Medical College at Louisville, Kentucky, and he was also a graduate of the New York Polytechnic and studied abroad. He was married in 1894 to Miss Martha Wood of Columbus. He is survived by his wife, one daughter, Miss Ethel

Payne, two sons, Dr. Virgil Payne, Pine Bluff, Ark., and William Payne, Greenville, and four sisters. For more than thirty years he served as a vestryman of St. James Episcopal Church and for four years as Senior Warden.

He was an outstanding leader in organized medicine in Mississippi and the Southern states. He did special study on goiter and compiled valuable statistics on cancer. He was one of the most valuable men in the Mid-South in organized medicine. He was a close student of disease itself and he studied medical problems and used his influence to help solve them.

Dr. A. G. Payne was a lovable man. He was devoted to his family. He loved his home. He loved his church. He was always interested in his town and his state as a citizen. "The work we love to do physics pain." He was a tireless worker in his profession because he loved the practice of medicine. He loved to relieve the suffering sick. He loved to help people solve other problems that were giving them trouble. He knew how to put first things first. He was ever obedient to the motion of the Divine hand. His faith was simple, but it was stronger than the mighty river on the banks of which he lived. He was trained in the field of medicine. He was broadly informed on all questions of general interest. He was one of the highest types of citizen we have ever known. His greatest strength was in his heart power, the power that always moves the world in the right

direction. Heart power is higher, more noble and mightier in force than intellect. In intellect he was not less gigantic, but in heart strength he towered like a tall pine. We can still hear his kindly voice and feel the warmth of his friendly handshake. Everlasting peace to his ashes, kind and tender memories ever of his noble life. Sincere sympathy to his devoted family, for which he had such tender and unbounding love.

"Sunset and evening star,
And one clear call for me,
And may there be no moaning of the bar
When I put out to sea.

But such a tide as moving seems asleep,
Too full for sound and foam,
When that which drew from out the boundless deep
Turns again home.

Twilight and evening bell,
And after the dark!
And may there be no sadness of farewell,
When I embark.

For tho' from out our bourne of time and place
The flood may bear me far,
I hope to see my Pilot face to face
When I have crossed the bar."

P. W. LUTTERLOH, M.D.
W. H. ANDERSON, M.D., Chairman
In Memoriam Committee

Disputed Points About Peptic Ulcer*



LOGAN CLENDENING, M.D.
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Not long ago I received from France two large volumes which contain some of the most magnificent plates depicting pathological anatomy which I have

*Read before the Mid-South Post Graduate Medical Assembly, February 12-15, 1935, Memphis, Tenn.

ever seen. They constitute "The Anatomie Pathologique du Corps Humain" of Jean Cruveilhier. In them will be found the first pictorial representation of ulceration of the stomach and the duodenum. Inasmuch as the books were published between the years 1835 and 1842 this may be considered as approximately the centenary of the establishment of peptic ulcer as a clinical and pathological entity.

In the hundred years since its first description, we have learned a great many things about the disease. But our knowledge of its etiology, its pathologic physiology and its treatment, is not yet on a sufficiently solid basis but that widely divergent points of view may be held, with sound reason, about many of its important features.

If I discuss some of these disputed points today, and if I should appear to be somewhat partisan in my advocacy of one point of view, I hope you will remember that I am entirely conscious of the very tentative nature of our evidence upon all points, and if I were to persuade you to any of my views, I hope that you will hold yourself in readiness, as I am, to change your opinion when a more definite proof of any disputed point comes to hand.

I—THE CAUSE OF PEPTIC ULCER—The first controversial aspect of peptic ulcer (and I use the

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term "peptic ulcer" in order to avoid the monotonous repetition of gastric and duodenal ulcer) concerns its etiology. It may be well to remind ourselves of the classic description of Cruveilhier. He insisted first on the fact that ulcer of the stomach was *sui generis*. "Anatomically considered," he wrote, "the simple chronic ulcer of the stomach consists of spontaneous loss of substance, ordinarily circular with the margins cut perpendicularly. Confused in practice sometimes with chronic gastritis, more commonly with cancer, simple chronic ulcer of the stomach does not appear to me to have attracted the attention of observers as a special disease. The simple ulcer of the stomach presents the same characteristics as the cutaneous ulcer produced by internal causes or by a local disease."

Peptic ulcer, then, thought Cruveilhier, was not essentially different from ulceration anywhere else in the body. And if we review the causes of ulceration elsewhere, we must admit that peptic ulcer is due either to chemical erosion, destruction by physical agents, inflammatory erosion, or necrosis following embolism or other circulatory disturbances. Malignant ulceration we can leave out, because if the ulcer is malignant, it is not the disease we are discussing here. There are no other causes of ulceration except those which are vaguely termed "trophic", and if we attempt to designate any particular etiologic factor in the case of peptic ulcer, we must conclude that it is due either to chemical, inflammatory, or circulatory disease, or must be thrown into the vague category of trophic ulcer.

Chemical agents which might cause ulceration of the stomach we have on the spot. The old physiological conundrum, "Why does not the gastric juice digest the stomach itself?" indicates at least that there are potent chemical agents present which might, under certain circumstances, be responsible for loss of tissue. But while an excessive hyperacid or hyperactive gastric juice may keep alive an ulceration once formed, it is impossible to suppose that it can originate the ulcer. There must be a local spot of lowered resistance. This might be caused by embolism, especially infective emboli coming through the omentum from the appendix, or other intra-abdominal foci, but clinically, in any large number of cases such mechanism is impossible to demonstrate. That trophic hereditary lack of vitality in a certain spot of the gastric or duodenal wall could occur is indicated by studies of Warthin and Draper. There are undoubtedly ulcer families, and Draper has shown that there is a constitutional habitus which goes with ulcer, a habitus which can be measured by the angle of the jaw and shape of the face. Veterinarians are familiar with the gastric ulcers of young nursing calves, which are taken prematurely from their mothers and given food which has not been well ground, and Rose now has reported that at the Chicago stockyards ulcers are found in animals most often in late winter because in that season the fodder is particularly coarse. Is it possible that the delicate jaw of the ulcer patient is unable to grind the food sufficiently so that such traumatic factors are operative?

In a series of 942 cases of duodenal ulcer Riecker found family incidence of ulcer, cancer, or both, in 124 cases, or 13 per cent. In 1910, Czernecki published the history of a family in which a mother, son,

and three daughters had peptic ulcer. A. F. Hurst, in 1921, described six families in which ulcer occurred in more than one member. In 1925, Huddy reported two families, in one of which the mother and four sons had peptic ulcer. Wilkie, in 1927, said "I have had to deal with two families in each of which three sisters had to be operated on for duodenal ulcer."

Inflammatory origin of the spot of lowered resistance can be demonstrated with great ease. Any overwhelming intragastric infection results in punctate ulcerations. Any overwhelming systemic infection does the same thing, but the difficulty is that such ulcerations heal up so readily that it is difficult to suppose they could be the origin of our well known chronic indurated peptic ulcer.

The work of Haden and Bohan has given a more definite slant to the possibility of the inflammatory origin of ulcer. This work in patients who actually had peptic ulcer, has shown that such things as old infected crowns, root abscesses around teeth, and the infection of tonsils, will yield cultures of an organism which, when injected into an experimental animal, will, in 60 per cent of cases, select the gastric mucosa for ulcerative destruction.

Inasmuch as we are forced to choose either a chemical, circulatory or inflammatory origin for peptic ulcer, or cast it into the waste basket called "trophic," we lean towards focal infection with the selective action of certain bacteria on the gastric mucosa producing ulceration which is kept alive by the hyperactive gastric juice.

II. THE CAUSE OF PAIN IN PEPTIC ULCER. Any sort of abdominal pain or abdominal discomfort still awaits the clear explanation of its nature. When one contrasts the flaccid abdomen of a patient with extensive carcinoma of the stomach, into which one can dig one's fingers or press the hands without eliciting any sign of discomfort, with the abdomen of a patient who has had nine laparotomies and still is so tender, even with the abdominal muscles tensed, that he, or she, can hardly bear to have the finger laid upon the abdomen, it is difficult to be dogmatic.

Two general theories of the origin of the discomfort of peptic ulcer have been advanced. One of these is based upon the well known fact that in ulcer of the stomach there is an excessive secretion of gastric juice, which besides being excessive in amount, is usually excessive in its concentration of hydrochloric acid. Theoretically, it is difficult not to admit that such a secretion impinging upon the sensitive exposed surface of ulceration would be sufficient to account for the discomfort. Added to this is the well known clinical fact that neutralization of the hyperacid gastric juice brings relief from the discomfort.

This theory has, however, by no means gone without opposition. Hurst, in 1911, began to emphasize the importance of increased gastric tension in the production of the distress. It has been pointed out over and over again, that the gastric mucosa is insen-

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sitive to pain-producing irritation. Carlson, since 1906, has been reporting up the effect of peristaltic waves and other muscular waves in the production of various sensations.

Various observers have reported on using a balloon which is put in situ in the stomach so that the gastric contractions can be recorded upon the kymograph. With healthy conditions in the stomach such a record shows waves of increased height and strength during periods when there is a sensation of hunger. In the case of peptic ulcer these increased peristaltic waves are present at the so-called distress period—that is, when the ulcer begins giving symptoms of pain.

As a corollary to what we may call the hyperperistalsis theory of discomfort in peptic ulcer, several observers have reported cases of peptic ulcer without hyperacidity, even with achlorhydria. If this be true, it effectively knocks the hyperacid theory of the discomfort of ulcer into a cocked hat.

But the subject is, by no means, entirely clarified. Until we can get all investigators to agree upon certain facts, we are in no position to use of their data. For instance, in a careful review of all the literature, W. L. Palmer found reason to criticise every report made. He pointed out that anacidity might be present at one time and yet at other examinations a hyperacidity be found. For instance, in a case first reported as having anacidity, with roentgenological evidence of duodenal ulcer, three fractional test meals revealed an entire absence of free acid, but a free acidity of 14 was obtained in response to the subcutaneous injection of $\frac{1}{4}$ milligram of histamine hydrochloride.

No case investigated by Palmer could be proved to have an anacidity, and as late as 1934, I have heard him say in clinic that there is no proved case of peptic ulcer without the presence of free hydrochloric acid in the gastric contents.

Palmer's own experiments as to the causation of discomfort in ulcer are more extensive than those of any other investigator. With the use of the balloon he was not able to correlate hyperperistaltic movements with the sensation of discomfort, but invariably when hydrochloric acid was introduced into the stomach alongside of the tube, characteristic distress occurred along with hyperperistalsis.

In the face of the experimental conflict, one must remember Professor Sippy's invariable reply to people who criticised, on theoretical grounds, the use of alkalis for the treatment of ulcer. "The patients," he said, "seem to like it." And this clinical evidence of the effect of neutralization is the strongest proof we have that the distress of ulcer is in some way associated with hyperacidity.

III. CRITERIA FOR DIAGNOSIS. The outside possibility of error in diagnosis of ulcer of the stomach under reasonably good conditions for examination is about 30 per cent. With critical criteria, it should be reduced to from 5 to 10 per cent.

Foss, in recording the diagnostic errors made in thirty-one patients at the Mayo Clinic, states that of these, six cases had been diagnosed duodenal ulcer, one pyloric ulcer, one gastric ulcer, and two pyloric obstruction and ulcer, by the diagnostic department, whereas, totally different conditions were found at operation. In the same series three duodenal ulcers

were observed which had not been anticipated by the diagnostic department. In other words, in a series of diagnostic errors in the abdomen over forty per cent of the errors were made on the subject of peptic ulcer.

Gray, in 1927, reviewed two hundred and fifty cases classified as duodenal ulcer. On re-examination he found that thirty-two per cent of these cases had no positive signs (that is, blood in the stool on repeated testing, or positive X-ray signs,) of the condition and could be classified under other headings.

It is not possible even at operation by the appearance of the stomach to make a positive diagnosis of peptic ulcer. How else can we explain the careful follow-up record of Coffey's cases in which it is shown that nearly twenty per cent of the patients who died within a few months or years from the time the diagnosis of ulcer was made at operation, died of carcinoma of the stomach or liver?

In 1912 Cabot, after reviewing a series of cases in which autopsy had established the diagnosis, found that only thirty-five per cent of the cases of peptic ulcer were correctly diagnosed.

The older writers based all their conclusions about ulcer upon hemorrhage.

The treatments of Lenhartz and Leube were designed to be administered at varying periods after the hemorrhage. Hemorrhage, of course in the sense of hematemesis, appears in only a small percentage of cases. I find that the syndrome of internal hemorrhage, which is far more frequent than hematemesis itself, is not sufficiently emphasized to students.

In an article for a magazine several years ago, Mr. Irvin Cobb wrote on "How It Feels to Die". His account was based on his experience during a lecture tour. He made a series of one night stands, going from one city to the other, usually in cities of considerable size. For some time he had a peculiar sensation which came on him at about the same time every evening, just while he was dressing to appear on the platform. It was a sensation of faintness and dizziness and slight nausea, which went away shortly after he assumed a recumbent position and drank some ice water.

In each of the fairly large cities which he visited, he consulted a physician of reputation. Not one of them made either a definite or satisfactory diagnosis. Finally, one night when this sensation overcame him he lay down on the bed and the next thing he knew was that he was regaining consciousness, with his manager, a physician and a trained nurse in attendance. He had been unconscious for over an hour. He describes then how it feels to die. He says that he felt like a balloon or sphere in the ocean. He had slowly sunk down, down, down, through blacker and colder depths, until finally very gently he hit the bottom of the ocean, and then he rebounded and very slowly rose through ever increasing light and warmth, until he came to the surface and took a long breath.

The physician in attendance on this last occasion sought the simple expedient of making a hemoglobin estimation, which showed a reading of about 40 to 50.

This is the syndrome of internal hemorrhage and it is not a little humiliating to find so many eminent members of the medical profession entirely

missing its significance.

Aside from hemorrhage in any form, the distress of ulcer has been so clearly described by Sir Berkeley Moynihan on the basis of the correlation of findings at operation with the patient's recitation, as to put the entire profession forever in his debt.

Discomfort that has relation to meals, coming either before or after, relieved or aggravated by food and by alkalis, essentially chronic but essentially recurrent—a history of this kind is present in the large majority of cases and if carefully elicited, is of the very greatest importance. And yet I have seen an ulcer perforate, the base of which was the size of a half-dollar, occurring in a laborer in a stone quarry, eating the roughest of food, who had never complained of any sensations whatever.

"It is not very rare to find the simple ulcer of the stomach in the body of an individual who has never had during his life any symptoms in this organ; but more commonly the distress in the stomach is part of a series of symptoms of more or less importance. The principle symptoms are the following: loss of appetite or bizarre appetite, insurmountable distress, difficult digestion, nausea or heavy pains in the epigastrium, and sometimes epigastric pain extremely sharp during the process of digestion or indeed when there is no food in the stomach. The epigastric pain, or rather the xiphoid or sub-sternal pain, is referred sometimes to a corresponding place on the spine, and I have seen many patients complain more of a spinal point than of an epigastric point of tenderness. The more or less rapid loss of weight, constipation, nausea, vomiting after the digestion of food, finally the hemorrhagic or black vomiting, are the ensemble of symptoms which individuals affected with simple ulcers of the stomach present; and it is easy to see that these symptoms are not always signs of pathognomonic," wrote Cruveilhier.

The examination of the gastric contents, while valuable for therapeutic purposes, is not one upon which a great deal of reliance can be placed in diagnosis. The roentgenologic evidence, when positive, is of first rate importance; when negative, as under ordinary conditions it so often is, it is of no consequence whatever. Personally, I prefer the plate method to any fluoroscopic reports and would place no reliance upon any plate which was not made with the patient in the erect position.

To summarize, the diagnosis of ulcer depends upon the following data, named in the order of their importance: hematemesis, blood in the stool, the syndrome of ulcer distress, the syndrome of internal hemorrhage, the syndrome of pyloric obstruction, positive X-ray evidence, hyperacidity. Any combination of these strengthens the diagnosis.

IV. THE MEDICAL VS. SURGICAL TREATMENT OF ULCER OF THE STOMACH. When I was young, I lived in the atmosphere of surgery. I worked in a clinic where it was considered disgraceful if we did not perform ten laparotomies a morning. Gastroenterostomies for ulcer and gastrectomies were a routine part of the day's work. As I grew older, I found, that it was not necessary to ship every case of ulcer of the stomach to the surgeon in order to obtain a good clinical result. I also found a number of people, too, who had gastroenterostomies or gastrectomies, who were not relieved, were vomiting blood,

who has bloody diarrhoeas, who had long exhausting spells of vomiting.

Perhaps the best way to look at it is to take the title of a paper by a surgeon, Dr. Frank Lahey of Boston, who wrote "What Would You Do If You Had Ulcer of the Stomach?" Personally, I am willing to meet the ancient challenge and take nine complete medical cures rather than the chance of one surgical one with its attendant dangers. Certainly, we all agree that wholesale operation for ulcer indiscriminately has not proved its value.

I recently went into a shop in Chicago where a certain clerk usually waits on me. I inquired for him and they said that he was at the hospital and had had an operation for ulcer of the stomach. I expressed surprise because he had never complained of any symptoms of indigestion to me. "Oh," the fellow clerk said, "he had never had any, but he had a hemorrhage last week and they immediately operated." That sort of excess, I think we all agree, is a disgrace to the profession.

Certain ulcers, however, even aside from cases of perforation, should be considered as surgical. I do not mean entirely cases of pyloric obstruction. Many of these do well on medical treatment. But the patient who continues to have distress in spite of a long period of conscientious and sound medical treatment, who is miserable whenever the neutralization has stopped, should have the benefit of surgical intervention. Sooner or later perforation or a grave hemorrhage is likely to precipitate a fatal outcome.

V. CHOICE OF MEDICAL TREATMENT. In the first edition of Osler's "Practice of Medicine" I ever studied, dated 1905, the following recommendations are made:

"A carefully and systematically regulated diet. 8 a. m. 200 c.c. of Leube's beef solution; at 12 300 c.c. of milk gruel or peptonized milk; at 4 p. m. the beef solution again, and at 8 p. m. the milk gruel or buttermilk.

"Lavage may be practised every morning with mild alkaline water.

"Medicinal measures are of little value. Carlsbad salts are warmly recommended by von Zeimssen (sodium sulphate, bicarbonate of soda, and sodium chloride). Bismuth, 30 to 60 grains three times a day and nitrate of silver may be given. The pain if severe, requires opium." Chloroform, cerium oxalate, hydrocyanic acid and ingluvin are also recommended.

That represented, unquestionably, the best clinical thought of that day. But how utterly unsatisfactory. Nearly everything in it is wrong, the kind of food and the time of meals, the time of lavage, the drugs, the exact opposite of what we know to be best. And all of it tentative, apologetic, uncertain.

In 1915, for the first time, the medical world heard of a definite technique, well thought out, exact in every particular and tested in a huge clinical experience, the method of B. W. Sippy. There is no need to describe that method here. Its essential features were to neutralize the excessive acidity in order to promote healing, by alkalis and a bland diet, rest in bed, and lavage at night to remove acid debris from the stomach during its empty or rest period. His recommendations for hemorrhage and obstruction were especially valuable.

The Sippy treatment made a profound impres-

sion. Its general features, with a few exceptions, have formed the basis of every subsequently published medical treatment. What its results have been will be discussed later. Here I may say merely that I know of no clinician who ever really tried it in pure form, who ever gave it up.

But doctors are restless people and modifications, many of them direct criticisms of Sippy's views, have been numerous.

The most important of these modifications has been to do away with the alkalis and attempted neutralization of the stomach contents.

It was pointed out by observers, such as Hardt and Rivers, and Shattuck, Rohdenburg and Booher, that intensive alkalization produced toxic symptoms such as impaired renal function, nausea and dizziness. An early symptom of such a state is a distaste for milk. There is no doubt that such syndromes occur but they must be very rare. Only once in a rather long experience with the classic Sippy treatment, have I seen a case of this kind. It is, however, significant to note that many adherents to the neutralization treatment use tribasic calcium phosphate, tribasic sodium phosphate and sodium citrate as less likely to disturb the acid-base balance of the blood, than sodium bicarbonate or calcium carbonate.

Other criticisms were to the effect that there was no great hyperacidity in the stomach contents of most cases, that sodium bicarbonate results in the annoying accumulation of carbon dioxide with resultant gastric retention, and that the large amount of sodium bicarbonate necessary to give relief, results in excessive gastric secretion. Over such criticisms may be written large the latest pronouncement of W. L. Palmer: "The fundamental difficulty in the treatment of peptic ulcer is that of combating successfully the digestive action of the gastric juice over adequate periods of time."

Other agents for neutralization besides the classic alkalis have been suggested, notably mucin. Mucin has its staunch advocates, whose successful results are accepted, but my own experience coincides with Brown's, who says, "An increasing experience makes me feel that while this drug has some therapeutic value, its importance has been greatly over-rated." Rivers and Vanzant report that patients refused it because of its objectionable taste, some were nauseated and vomiting and diarrhoea followed. In others, gastric acidity was not controlled and that it did the most good when combined with other modes of treatment. On the other hand, Henning and Norpoth report good results from the Leipzig University Clinic, especially in long continued freedom from symptoms. Wilson & Company have made a great improvement in a preparation which is more palatable.

No evidence, however, of the essentially sound basis for the Sippy treatment is more convincing than that of Emery and Monroe. These workers, living in Boston and hence divorced from the influence of Dr. Sippy's enthusiastic followers in Chicago, studied over 550 cases of ulcer. The results of the various kinds of medical regimens were as follows:

Medical treatment undefined, good and improved cases	42.1%
Sippy treatment advised	44.5%
Six meals and alkali	53.4%

Sippy treatment, partial	58.0%
Sippy treatment, full	78.5%

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Milbank Memorial Fund

INDIANAPOLIS, Jan. 27.—A strong plea for co-operation between philanthropic foundations and social workers on the one hand and organized medicine on the other in efforts to solve the problem of payment for medical care was made here this evening, at the Annual Conference of Secretaries of the County Medical Societies of Indiana, by Albert G. Milbank, president of the Milbank Memorial Fund, of New York.

Mr. Milbank, a member of the law firm of Milbank, Tweed, Hope and Webb, and prominently identified with the financial, business and philanthropic interests of New York, declared that the fears of certain groups of physicians that the Milbank Fund was advocating "state medicine" had no basis in fact. On the contrary, he explained, the proposals for compulsory health insurance under discussion would actually tend to forestall a movement toward "state medicine." Instead of making doctors employees of the government, the insurance proposals, he said, were meant not only to enable people to budget their medical costs but also to safeguard the private practice of medicine by pooling contributions in funds out of which fees could be guaranteed to the private practitioner.

"A basis for mutually helpful cooperation" in meeting the problem of the costs of medical care for the lower income levels can be established," said Mr. Milbank, "provided there is a recognition by the medical profession that a foundation interested in promoting the public health has a right to offer proposals calculated to promote that object, and a recognition by such a foundation that the medical profession must play an all-important part in making such

proposals effective, and that the private interests of the physicians must be safeguarded."

"The subject of health," he said, "is affected with public interest." Similarly he observed "the practice of medicine is a gainful occupation and, therefore, affected with a private interest. The doctor who contends that the whole field of health belongs exclusively to him is on unsound ground. The medical profession would not, I assume, wish to be put in the position where it is the sole representative of the private and public aspects of such a vital subject. No one can be really comfortable when he tries to act as lawyer for several interested parties, judge and jury simultaneously."

"On the other hand, the health foundations, the public health leaders, the social workers, and the voluntary agencies who fail to guard the rightful private interests of the practicing physician, are acting unwisely, are guilty of a grave injustice, and will retard their own efforts for the reason, among others, that the family doctor, freed from financial worry, will not only continue to bring healing and comfort into the homes of his patients but will become a highly effective associate of the public health officer as well."

Referring to the Milbank Memorial Fund as "spiritually and financially the embodiment of a wise and generous woman, Mrs. Elizabeth Milbank Anderson," and recalling the number of important public health activities which this foundation has "conducted in close cooperation and with the cordial support of practicing physicians," Mr. Milbank continued that "it would be quite out of character if the Milbank Fund were to seek to undermine those foundations of the front line troops upon which everyone must rely to win the common fight for better health for the people of the United States."

In this connection Mr. Milbank pointed out that the Technical Board, Advisory Council, and staff of the Fund all contained medical members, and that a special advisory committee of physicians was being organized to promote closer cooperation with the medical profession in the study of medical economics. While the Board of Directors of the Fund has taken no stand on the question of health insurance, he said, the staff was making a careful study of various methods in operation in the United States and abroad. The staff had made only preliminary reports on basic principles upon which any solution of the problem of medical costs should rest if the insurance principle is applied, he said, and then emphasized that the principles adopted by the American Medical Association, the American Dental Association, and other medical groups bore a striking similarity to the series of principles outlined by the Milbank staff.

Important features embodied in the proposals of the Milbank staff, he said, were: "safeguards to maintain the present personal relationship between doctor and patient; freedom of all competent practitioners to engage in insurance practice; freedom of all persons to choose their physician from among the practitioners who engage in insurance practice; freedom of practitioners to accept or reject patients; no in-chase of medical care by those who can afford it; separation of cash benefits and medical benefits; and professional control of professional personnel and pro-terference by the insurance system with private pur-

cedures."

Mr. Milbank emphasized that these principles do not constitute a specific plan for health insurance, that the Milbank staff had published only preliminary reports of progress in order to encourage discussion, and that the staff, with the advice and counsel of the new medical advisory committee of the Fund, would make such further studies as may be appropriate after the results of the conferences now pending in Washington, under the auspices of the President's Committee on Economic Security, are known.

Mr. Milbank frankly admitted that unless great care is taken in the administration of a health insurance system, it might be open to abuses that would offset, in whole or in part, the advantages apparent on the fact of the proposals that have been advanced. He referred to the importance of avoiding the evils of bureaucracy and political influence. He said that there must be no repetition of the defects disclosed in the administration of the workmen's compensation laws, and spoke of the importance of maintaining a spirit of self-reliance and self-respect among the insured group.

Mr. Milbank urged, however, that the difficulties should not prevent a dispassionate consideration of the problem, and expressed a hopeful view that the advantages of a health insurance system could be secured and the difficulties largely minimized, if not wholly eliminated, provided the doctors themselves participated in the formulation of the program and became wholeheartedly determined to make such a system a success. He indicated his personal belief that if a soundly conceived health insurance plan were worked out, there need be no conflict between the public interest and the private interests of practicing physicians.

The Mississippi State Hospital Association

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REPORT OF COMMITTEE ON NURSES AND NURSING*

Presented by Dr. A. Street, Vicksburg, Chairman

At the 1933 meeting of the American Hospital Association the principal topic of discussion in the nurses section was, as at the previous meeting, nurse unemployment and over supply of nurses. Raising of standards of nursing education, and consequent elimination of many training schools was one remedy proposed, apparently not so much for the purpose of affording nurses more qualified for service as for the diminution of the available supply; also the advocating of use of graduate nurses in hospitals instead of students, a measure which if practicable for hospitals to adopt would at the same time afford employment for the graduate nurses and diminish the number of students. To increase nurse employment, formation of county or municipal councils of community nursing has been tried to help patients to

*Presented at the Fifth Annual Session of the Mississippi State Hospital Association, Natchez, May 7, 1934.

realize their nursing needs and to make nurses more easily available to patients. They have offered hourly appointment service. So far reports do not indicate any remarkable success from these methods. Most nursing service is done in hospitals. Abolition of monthly stipends for student nurses, or the requirement of tuition fees is also proposed as a measure to better the class of students and to diminish their number.

The Secretary of the Mississippi Hospital Association has accumulated the following data regarding hospitals and nursing in Mississippi for 1933:

DISTRIBUTION

3 Students, 2 Hospitals	11 Students, 1 Hospital
5 Students, 2 Hospitals	12 Students, 4 Hospitals
6 Students, 3 Hospitals	14 Students, 1 Hospital
7 Students, 1 Hospital	18 Students, 1 Hospital
8 Students, 4 Hospitals	24 Students, 1 Hospital
9 Students, 2 Hospitals	25 Students, 2 Hospitals
10 Students, 4 Hospitals	34 Students, 1 Hospital

All of the above figures are very similar to those for 1932.

Twenty-nine hospitals employ 75 registered nurses or 20 more than in 1932, an average this year of three nurses per hospital.

The present standards of training and registration of nurses in Mississippi are satisfactory to 22 of the 44 hospitals returning information, not satisfactory to one hospital. The following suggestions and comments were offered:

"Affiliation with large hospital if hospital has less than 50 beds."

"Believe they should have individual desks when take state board examination and not tables of four to six at a table."

"Satisfactory until we can do better."

"Fairly so."

"Nurses should be high school graduates. Facilities at training schools usually not sufficient."

"We discontinued paying monthly stipends to student nurses in 1931 and I am now convinced from my experience that this is an important factor in the process of selecting students of quality."

"I am also convinced that if all hospitals would abolish this apparently unnecessary expenditure to the student and spend this money for adequate teaching facilities they would be sufficiently compensated by obtaining more students with a sincere desire for study for a profession, and the hospitals would be better equipped to give them their education."

"If this subject was properly presented to the hospital executives of this state I believe it would eventually be generally advocated as a forward step in standardization of nurses' training."

"We employ seven registered nurses full time supplying them with board and lodging, the superintendent seeing that each has five days to week special duty during the month if possible. This system works out so that there are, except on rare occasions, two graduate nurses in charge of each floor all the time."

"We do not use registered nurses entirely and would not consider it more economical then conducting a training school."

Eight hospitals without schools of nursing consider the employment of graduate nurses more economical than a training school. Two hospitals with-

out schools of nursing do not consider the employment of graduate nurses more economical.

The Committee presents the above information and opinions for your consideration.

We fail to see how some of the very small hospitals and training schools, on the one hand, can find it profitable to go to the trouble and expense of giving the standard curriculum to such small groups of nurses, and, on the other hand, how the nurses can be afforded the necessary material for their training. It seems that under such circumstances the employment of graduate nurses in place of students would be preferable. We approve of affiliation with large hospitals in case the training school is that of a hospital with inadequate material for rounding out the nurses' training, especially training in such specialties as pediatrics and obstetrics.

The committee indorses the abolition of monthly stipends.

As to nursing educational standards. Mississippi required a minimum average of 12 patients in a hospital as one qualification for the operation of a training school. Louisiana required 50. Alabama required 50 or affiliation. Obviously our standards are not excessive when compared to those of our sister states. However, one of this committee, Miss Lord, who is also on the Mississippi State Board of Examiners for Nurses informs us that the present standards have not as yet been extensively attained by the training schools throughout the state. We do not recommend raising of educational standards at present, but rather suggest increased effort to enforce the present standards.

DISCUSSION

MR. W. H. MARTIN (Greenville): It seems to me that now is a very good time to plead with the members of the association for co-operation. This is a very essential factor for mutual benefit to be derived which, after all, is the purpose of our meeting. Having failed to receive a copy of Dr. Street's paper my remarks will have to be of an extemporary nature. I would like to take issue with two of the doctor's recommendations. First, the abolition of monthly stipends to students. I do not feel or see why any hospital should want their students to work therein three years simply for maintenance. Although the student is learning, surely their time may be considered worth something to themselves as well as the hospital. Secondly, I do not think now or any other time is the time to lessen efforts to raise your educational standards for nurses. It is my opinion that schools of nursing in order to turn out the best product should like other educational institutions have exacting requirements.

MISS KATE LOU LORD (Hattiesburg): Representing the Mississippi State Board of Examiners for Nurses, I would like to say a few words relative to some of the problems we have in each school and mention some things that we are trying to do. You know the Board of Examiners is appointed by the Governor. The legislature makes the laws which we are trying to enforce. Dr. Street said he did not believe we required applicants for entrance to schools to be high school graduates. Our minimum entrance requirements as amended in 1932 are that all applicants have at least a high school education. All stu-

dents in training in the state today are high school graduates, the high school records are on file in each training school office and in the office of the secretary of the board. The law says that the Board of Examiners may make such rules and regulations as we deem necessary to carry out that law. We have what we call the BLUE BOOK containing the rules and regulations relative to carrying on a school of nursing. Our minimum requirements, as fixed by the board, are a general average of twelve patients per day. This does not mean that you have 12 today, 8 tomorrow, 10 the next day, but a general average of 12 patients per day for the year; a general hospital with at least 25 beds.

This is the lowest minimum requirement of any state in the union, and I beg of you hospital people that you help us keep this minimum requirement. We post along with the other rules and regulations the curriculum for the schools to follow. As Dr. Street said, if you think you can carry on a small school and give adequate training to students cheaper than using an all graduate nurse staff you have a mistaken idea. Mind you I said adequate training.

If we do not live up to our minimum requirements and carry on with our curriculum as we should, Mississippi registered nurses will soon be isolated, because our schools are not up to the standard of other states. Natchez and Vicksburg schools have students in training that would like to register in Louisiana. These young ladies live in Louisiana. Therefore, they would like to go back home to practice. With our present standards very few Mississippi schools are permitted to register in Louisiana.

Relative to monthly allowances, I do not think you should discontinue monthly allowance to save money. If the monthly allowance in your school amounts to as much as twelve hundred dollars or more, and you wish to improve your school I would advise that you discontinue the allowance, and return it to the school in school improvements, (example, full time instructress, class room equipment, books for reference library, etc.). Please don't discontinue your allowance to balance your budget, because of hard times.

If you are conducting a school of nursing, do not conduct a training school for nurses.

DR. W. H. FRIZELL (Brookhaven): I cannot resist the temptation to criticize our friend Mr. Martin's attitude here. I think were he a professional man he would not have taken the view that he did, and I want to commend Miss Lord for upholding the standards of her profession. I think next to the medical profession, it is one of the greatest there is. Ours is always the best of course, but I want to see the nurse's raised, for God knows it is low enough now. Last year I tried to bring out the employment in small hospitals of registered nurses as against training schools. You medical men know that we are governed by the American Medical Association and by the principles laid down by the American College of Surgeons. We have minimum standards, but do we comply with them? I will tell you this that we will receive nothing by reciprocity unless we set our standards equally as high as others. I grant nurses the same privilege and you yourselves know you will not employ one whose standard is not that high. For a girl who has not had a high school education, nursing is rather hard to grasp. I notice those girls who have college train-

ing with plenty of Latin learn it so much better. Go home and ask your nurses to work out some solution. They can do it or I would be ashamed of my state. Therefore, let us hold our Association up to high standards and we will be recognized by the best. I dislike to be on the tail end just swinging along.

MISS LORD: I would like to add that we have 38 schools of nursing in the State of Mississippi and 18 of those are owned and operated by physicians. If we, as a Board of Examiners, can not get the cooperation of the doctors in lifting the standard of our schools in our profession, we are going to have an awfully hard time in the state.

DR. A. M. McCARTHY (Electric Mills): I would like to have the subject of monthly stipends to student nurses more generally discussed. I am thoroughly convinced that if the practice of paying student nurses was discontinued it would greatly increase the efficiency of our training schools. The majority of the hospitals of Mississippi are small and we are all pressed for funds to furnish an adequate training school. A student nurse, if she is the right kind of student, does not spend three years in our institutions for the \$5.00, \$10.00 or \$15.00 per month that the various hospitals allow but she spends her time and effort in the hope that she will be taught her chosen profession. If the hospitals of this state could afford adequate teaching facilities for their training schools and at the same time could afford to pay their students for the privilege of educating them, then the practice might be justified, but until that happy day arrives, why not be honest with the student and instead of trying to offer an inferior education with pay, offer her the best educational facilities that our meager funds can afford and let her furnish her own outside necessities the same as the students in all other branches of education.

Mr. Martin in opening this discussion said he did not believe a nurse should spend three years in a training school without receiving something for it. If he is referring to a monetary reward, I think he is wrong. She is there to learn the nursing profession. That should be her sole purpose, and her sole recompense.

DR. H. F. GAMBLE (Greenville): I just wanted to ask the Chair to ask Miss Dorsey for her views. She is an executive and teacher and has had a large experience, and I feel sure her views would bear considerable weight.

MISS MARY E. DORSEY, R.N., (Greenville): I think that there is so much more goes into it than we have discussed. If we are going to discontinue any allowance to the students, what will be the method of taking care of all breakage, of taking care of books? I mean the expense of books and breakage and the expense of uniforms? I do not believe that it can be settled in an open meeting, and I do not know that it can ever be settled universally. Each separate hospital will have to take care of its own problems. I certainly am in favor of diverting the money back to the student and employing enough graduate nurses so that the students may be on duty not more than six hours a day and in the class room 2 hours. Not more than eight hours of her time should be given in payment for her bedside nursing. After all the student nurse is not unlike the student who is working her way through college, but so often, as Miss

Lord said, our training schools have been just that; they have really been in some instances work houses not schools. That is the thing we are trying to abolish and the best way to do it at present, I do not know.

DR. A. STREET (closing): It seems from Mr. Martin's remarks that I was misunderstood. I did not propose that we not strive for educational standards for our nurses. What I said was, and what I meant to imply was, that there is no use in Miss Lord sitting at her desk or going around with a set of standards that are far beyond what is being attained. You can write down standards all right, but that doesn't make any difference, it is what is being done. Miss Lord and I sat down and talked this over quite a while. We have good standards, we have a good curriculum, and if you conduct the school and carry out the curriculum that Miss Lord will furnish you you will turn out good nurses, and what I said was that what we should strive to do is to attain our present good standards, instead of making a lot of standards up in the clouds that are not attainable.

THE PRESIDENT: I think in Dr. Street's report he recommended that the stipend be discontinued.

DR. V. B. PHILPOT: May I ask what was the recommendation?

THE PRESIDENT: There was a discussion about the payment of some sum to students. His report recommended that this be discontinued.

DR. W. H. FRIZELL: I wish to amend that section to read that the stipend be left to each individual hospital.

Motion made and seconded that amendment be made. Carried.

Motion made and duly seconded that report be adopted. Carried.

Woman's Auxiliary

TO THE

MISSISSIPPI STATE MEDICAL ASSOCIATION

Mrs. Dan J. Williams, Editor

Gulfport, Mississippi

AUXILIARY ENTERTAINS NURSES AND HUSBANDS

The Woman's Auxiliary of the Harrison-Stone-Hancock Counties Medical Society entertained with a Christmas tree and party Thursday night at the Gulfport Woman's Club honoring the husbands of the members, the student nurses from the King's Daughters Hospital and nurses from the Veterans' Hospital, Gulfport. Fifty-two were in attendance at the party. The room was gay with Christmas greens and a lighted tree. From the tree gifts were distributed to the nurses and doctors, Dr. Cummings McCall acting as "Santa Claus" and Edward Parker, Jr., delivering the gifts to the guests. Games, cards, conversation, music were the diversions of the evening. Mrs. Daniel J. Williams, president, extended the welcome. Refreshments of coffee, sandwiches and candy were served. Dr. Emma Gay was decorations chairman. Mrs. Cummings McCall, entertainment and Mrs. George Melvin, refreshments.

MEDICAL AUXILIARY ENTERTAINS

MRS. HENRY BOSWELL

The January meeting of the Harrison-Stone-Hancock County Society met Wednesday, January 16 with the incoming President, Mrs. E. D. Gay. The election of officers for 1935 resulted in Mrs. J. S. Laird, President-Elect; Mrs. Green, Vice-President, from Stone County; Mrs. Wolfe, Vice-President, Hancock County; Dr. Emma Gay, Vice-President, Harrison County; Mrs. M. M. Snelling, Secretary-Treasurer; Mrs. H. K. Rouse, Lyman, Historian; Parliamentarian, Mrs. D. J. Williams.

The honor guest, State President, Mrs. Henry Boswell, made a most inspiring and helpful talk—injecting her own splendid personality into every statement.

Tentative plans for the year's work including Preventorium and Contest as sponsored by the State were made. As the state meeting is to be held in Biloxi in May, Mrs. Boswell is anxious to get her program arranged and our local Auxiliary will lend whatever assistance we can. We hope for a large attendance of doctors' wives.

The doctors' wives in Harrison County have had several happy occasions during and since the Holidays. The spirit of good fellowship has been most evident and helpful. One of the gestures toward making Christmas week one to be remembered was the inviting into our homes for a two day holiday such student nurses who were unable to go home for such a brief vacation. If the doctors' wives in every community where a nurses training school exists would make the student nurses feel they have in them a real friend, I feel the attitude of both wife and nurse would be much happier toward each other.

These young ladies are contributing a great deal toward making many of your doctor husband's work more successful and easier for him.

Tulane Alumni Clinics Held

The Tulane Medical Alumni Clinics held in New Orleans on December 6 and 7, were attended by a large group of enthusiastic graduates of this, the oldest medical school in the southwest. It was founded in 1834, the first lecture being given on January 5, 1835. During the first one hundred years of its operation, a total of 6,447 have been graduated with the M.D. degree. Of these, approximately one-half are now living.

The two days program consisted of clinics, demonstrations and addresses by members of the Faculty and of a banquet the evening of the 6th.

The appreciation of those who attended this event is indicated by the fact that a large proportion of them voluntarily expressed themselves as hoping that a similar affair will be held every year. Most of them indicated that they would come again themselves and that they would encourage others to do so. The general consensus of opinion is that this will be an annual event.

Two features of the school impressed the graduate of former years more than others. One was the well equipped, spacious library with more than 50,000 bound volumes, nearly 400 current periodicals and

comfortable reading room space for more than one hundred readers.

The other was what correspond to private offices for Senior students where, under the supervision of members of the Faculty, they examine, study and treat their patients as they will in private practice

later. The equipment in these offices is very similar to that of the practicing physician's office and includes laboratory facilities for each student to carry out all routine laboratory procedures in the examination and treatment of his patients.



Dr. H. King Wade of Hot Springs, President of the Mid-South. On the left, Dr. Carl R. Crutchfield, of Nashville, President-elect.— COURTESY COMMERCIAL APPEAL

Book Review

"The Stork Joins the Blue Eagle" is a blessed hour of sympathetic entertainment for the benighted obstetrician, or the layman. If ever a lecture as deeply grounded in conservative and finely accurate obstetrics was couched in the charmingly entertaining phraseology as this one, we have yet to hear it. Dr. Margaretten, its author, has a superb insight into and appreciation of humanity, but cleverly presents his well of understanding in a semi-burlesque manner. Hence, we have a small work which is highly entertaining, charming for a brief moment of relaxation; so refreshing you will find yourself chuckling over his sketches and the climactic pipe dream for days afterward. To be had from the Wamba Printery, Brooklyn, N. Y. for \$1.00.

Chicago, on April 25, 26, and 27. The Thursday and Friday sessions will be devoted to studies on Mongolism; Birth Injury as an Etiological Factor in Mental Deficiency; Mental Disorders in Mental Deficiency; The Problem of Sterilization; Defective Delinquency and its Relation to Penal Institutions; Community Supervision of the Paroled Mental Defective; and Newer Methods in Institutional Training for Community Life. The Saturday session, on April 27, will be devoted to the sociological, psychological, and the special educational aspects of Mental Deficiency. Physicians are cordially invited to attend these sessions. Complete data on the program may be obtained from the Secretary, Dr. Groves B. Smith, Godfrey, Illinois.

Annual Meeting of the American Association On Mental Deficiency

The Annual Meeting of the American Association on Mental Deficiency will be held at the Hotel Palmer,

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Public Health News

LAW PASSED June 14, 1822

Section 32 (page 302) Any butcher or other person who shall sell the flesh of any animal dying otherwise than by slaughter, or slaughtered when diseased; or any baker, brewer, distiller, or other person, who shall sell unwholesome bread or drink; shall on conviction by the verdict of a jury, for the first offence, be fined in such sum as shall be adjudged by the court, before whom such offender is tried; and for the second offence, shall, in addition to such fine, **STAND IN THE PILLORY FOR THREE DAYS IN SUCCESSION, ONE HOUR EACH DAY.**

Under the supervision of the State Board of Health the following work was accomplished through a federal malaria control project:

260 ponds drained (covering 1,348 acres)
3018 acres swamp land drained
6930 houses completely screened
438,550 feet length of ditches cut to grade.

Reports of ERA community and school sanitation projects from April 1, to December 31, 1934 show the following work accomplished:

5217 New concrete slab sanitary pit privies.
285 New wooden sanitary pit privies.
978 Old privies restored to sanitary type.
92 Septic tanks installed.
131 New connections to sewer.
14,285 feet sewer lines laid.

Two Mississippi physicians died during January:
Dr. Wm. A. Powell, 72, of Nesbitt, DeSoto County, was killed instantly in an automobile wreck near Hernando. Dr. Powell is survived by his wife, a sister, and three grandchildren.

Dr. C. H. Teasdale, 90, was found burned to death in his home at Crystal Springs January 22. Dr. Teasdale was to enter Beauvoir Home for old soldiers January 23. For years Dr. Teasdale practiced medicine at Ruleville and other points in the delta.

During the school year 1923-24, workers from the Mouth Hygiene Division of the State Board of Health, and dentists working in cooperation examined 14,321 mouths. Work was done in eleven counties only, and 18% were found OK upon examination.

Progress made is indicated by the figures for 1933-34: Work in 77 counties, 110,674 mouths examined, and 39,832 or 36% found OK.

Dr. L. L. Lumsden, representative of the U. S. Public Health Service, with headquarters in New Orleans, is in Mississippi for several days in the interest of a tuberculosis survey which the Washington Office of the Service has directed him to make. Mississippi is glad to be one of the states selected for this work. Dr. Lumsden has just completed work on a similar survey in Louisiana.

Within the next two or three years, diphtheria as a cause of sickness and death should be entirely eliminated.

DIPHTHERIA IN MISSISSIPPI

Sixty-three years ago, John Ruskin wrote: "Let a child fall into the river before the roughest man's eyes; he will usually do what he can to get it out, even at some risk to himself; and all the town will triumph in the saving of one little life. Let the same man be shown that hundreds of little children are dying of fever for want of some measure which will cost him trouble to urge, and he will make no effort; and probably all the town would resist him if he did."

It has not been long since diphtheria was one of the most feared and fatal diseases of childhood. It is now fully understood and should no longer be a problem. We know all about the germ that causes diphtheria; we can take it from noses and throats, make it grow in the laboratory, and look at it under a microscope. How it gets from one person to another is known, and this knowledge makes it possible to manufacture a toxin which will prevent diphtheria in ninety-eight out of every one hundred children to whom the vaccine is administered.

An average of approximately one hundred children die every week in the United States from diphtheria—many times that number suffer from the disease. Statistics also show that the greater per cent. that is, more than half of the cases of diphtheria, occur in children under five years, and sixty-two per cent before seven years of age.

The incidence of diphtheria in Mississippi is shown by the following table:

Year	Cases	Deaths
1921	3095	364
1925	1370	130
1929	1786	162
1932	1089	138
1933	859	116

JACKSON DAILY NEWS

JACKSON, MISS.

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Campus of forty acres, with huge forest trees, and springs of pure freestone water flowing about one hundred thousand gallons daily.

Two of our dormitories are conducted on the co-operative plan, whereby the students do much of the housework, thus reducing expenses considerably. We have six splendid brick buildings, three of which have been constructed recently at a cost of nearly of a third of a million dollars.

Exceptional faculty of experts trained in the best colleges, universities, and conservatories of America and Europe. Special advantages in piano, pipe organ, violin, voice culture, expression, home economics, art.

No extra tuition charge for courses in commercial subjects or in home economics.

Entrance only by graduation from accredited high school or by examination. We have no preparatory department.

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Write for catalogue and new booklet of campus views.

LAWRENCE T. LOWREY, PRESIDENT

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Doctor, we wish to call your attention to the merits and claims of the above named Institution, especially for Nervous and Mild Mental Disorders—for Drug and Liquor Addictions and Infirmities of Old Age.

This Institution is true to organized medicine and its principles.

It is registered by the American Medical Association.

It is a member of the American Hospital Association.

It is a member of the State Hospital Association.

It is a member of the National Association of Private Psychiatric Hospitals.

The staff of physicians of this Institution are all members or Fellows of the American Medical Association and its subordinate societies. They are physicians, who after having graduated in medicine, have had the best of medical training in the large graduate schools of medicine and hospitals of the East and are especially prepared for their respective specialties. These physicians give their entire time to the patients in the sanitarium doing no outside work.

Its clinical and pathological laboratory is complete and under the supervision of two of the best pathologists in New Orleans.

Correct diagnosis is the key note for the New Fenwick Sanitarium—no half way, and haphazard diagnosis is made here.

The methods of examination are most thorough. Each patient is given a complete Mental, Neurological and Physical examination including all laboratory examinations. Treatment is individual for each according to indications.

The latest and best approved methods of therapy are carried out here at all times.

Hydro-therapy, physio-therapy, electro-therapy and drug-therapy are used as indicated.

The New Fenwick Sanitarium is noted for the individual attention given each patient among pleasant and home-like environments.

This Institution prides itself on the character of nourishment and diet furnished the patients, not only at meal time but otherwise.

For forty-three years it has cared for and brought back to health Mental and Nervous patients, many cases being brought to us from other Institutions.

In the last forty-three years, it has studied and treated many Liquor and Drug Addicts.

The buildings of the New Fenwick Sanitarium are new and constructed especially for the class of patients it treats. They are built of pressed brick, steel and concrete, with every comfort, electric fans, steam heat, etc. All rooms are outside rooms with good ventilation and attractively furnished. The grounds are well kept and inviting with flowers, shrubs, shade trees and rest benches.

This Institution is patronized by the better class of people. Its services are offered to the discriminating physicians for the type of patients named above as a high class Institution in every sense and meaning of the word.

It is located in Covington, Louisiana, a section so noted for its health qualities, and is easily accessible by concrete highways, railroads and water routes. It is only one hour and a half by automobile from the center of New Orleans.

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OFFICIAL ORGAN

MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

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BOONEVILLE, MISSISSIPPI, APRIL, 1935

NO. 11



DR. CARL R. CRUTCHFIELD
President-Elect Mid-South Post Graduate
Medical Assembly

"Service, not years, is the standard by which life should be measured. Usefulness, not time, is what counts. It is the measure of greatness and goodness.

"There are numbers of men and women whose names are recorded in history with the phrase, "the great", following them who were never great, because they were never useful. Some were accorded distinction because they terrorized the people with the power and authority vested in them instead of using it as was hoped they would.

"Ten years of helpful, useful, constructive service for mankind is worth more than would be the 969 years, which were the measure of Methuselah's life, if they be spent in folly or inactivity."

—DeWitt McMurray

The cereal-starch of PABLUM is more quickly digested than that of long-cooked cereals

FOR many years it has been the custom to cook infants' cereals one, two, and even three hours to increase their digestibility. The microscope (and clinical tests*) now prove that this bothersome and expensive long cooking is unnecessary with Pablum. For, being pre-cooked at 10 pounds steam pressure and dried, it is so well cooked that it can be served simply by adding water or milk of any temperature. Photomicrographs and also digestibility studies *in vitro* give evidence of this thorough cooking.

Fifteen cereals (both cooked and uncooked) studied microscopically were revealed as containing many starch granules, most of them massed into dense clumps. *Such unruptured clumps were never observed in hundreds of examinations of Pablum.* The latter consists, rather, of porous flakes which, like sponges, drink up liquids. Hence Pablum can be entirely saturated by the digestive secretions. This is borne out by studies of Ross and Burrill who found that the starch of Pablum is more rapidly digested than that of ordinary cereals cooked 4 hours.

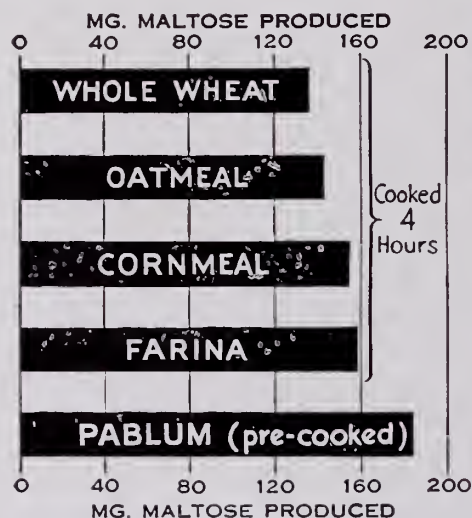
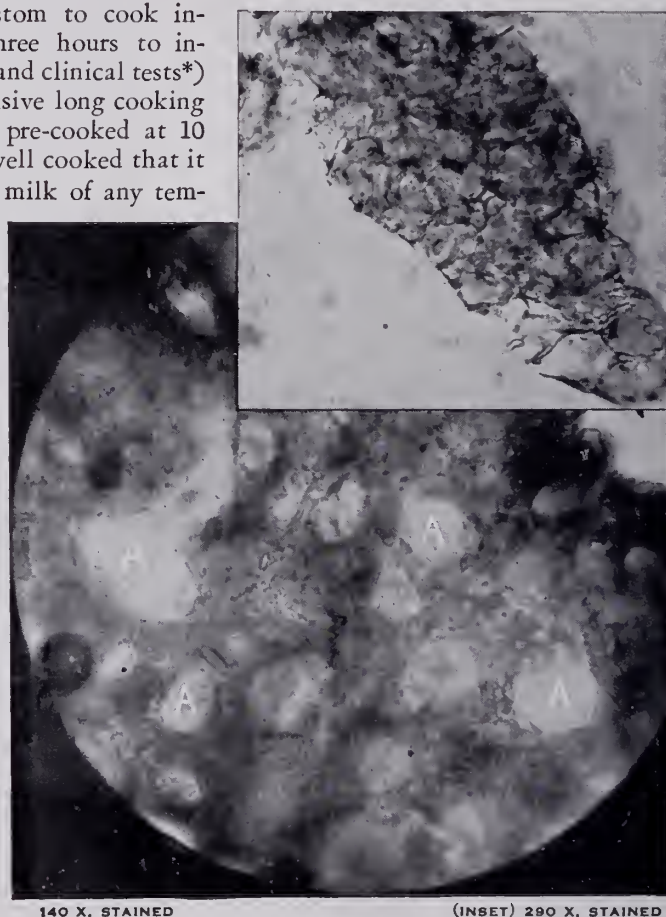


*Chart shows that maltose production is much greater for Pablum prepared with cold water than for other cereals cooked 4 hours. Ross and Burrill (Journal of Pediatrics, May 1934) conclude from this and from the total soluble carbohydrate formed that starch digestion of Pablum is more rapid than that of 6 other cereals.

Please enclose professional card when requesting samples of Mead Johnson products to cooperate in preventing their reaching unauthorized persons



Large photomicrograph: Pablum mixed with cold water—portion of large flake. Pablum flakes are honeycombed with "pores" or air-spaces (note light areas A). This porosity permits ready absorption of digestive fluids by the entire flake. No starch granules are visible—they have been completely ruptured.

Inset: Farina cooked 1/2 hour—clump of cereal composed of unruptured starch granules. Note density of clump and lack of porosity. Many starch granules, such as are present in raw cereal, remain unchanged in form.

BESIDES being thoroughly cooked and readily digestible, Pablum supplies essential vitamins and minerals, especially vitamins A, B, E, and G, and calcium, phosphorus, iron, and copper. It is a palatable cereal consisting of wheatmeal, oatmeal, cornmeal, wheat embryo, alfalfa leaf, beef bone, brewers' yeast, and salt.

*Reprint of Ross and Burrill paper sent on request of physicians.

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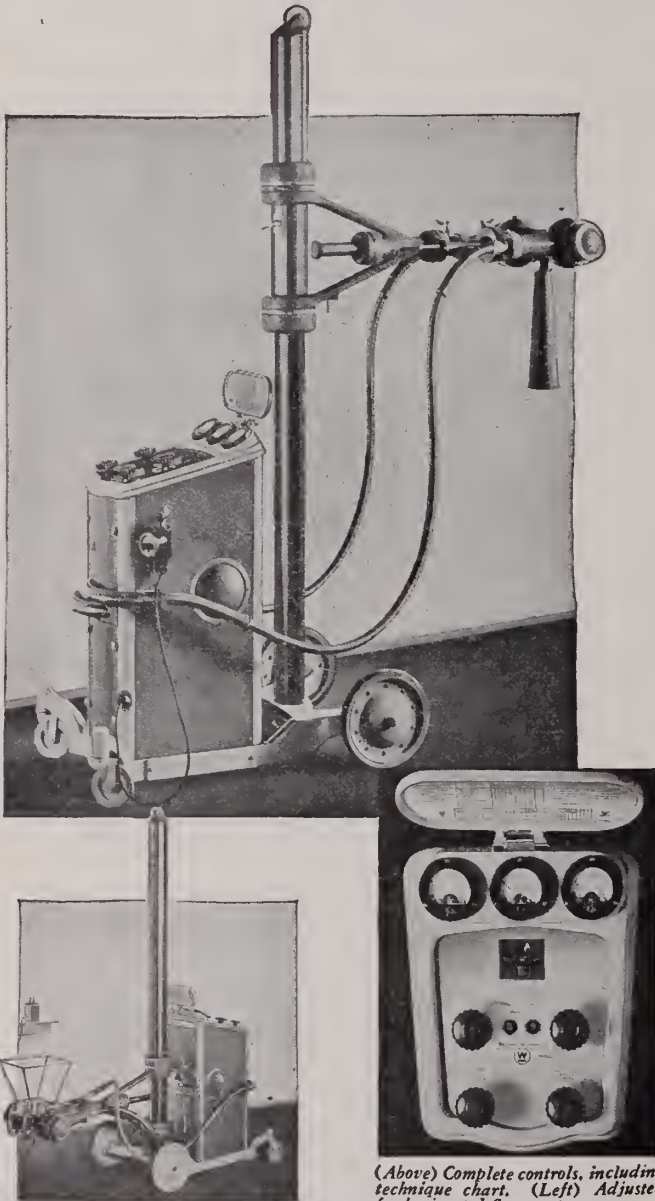
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Entered as second-class matter, January 18, 1926,
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EDITORIAL

The first quarterly meeting of the Northeast Mississippi 13 County Medical Society at West Point in March was quite a success. West Point is wide-awake. It is a commercial center. It has culture and refinement. It has a news paper that is doing much for the little city. It is the home of the president, S. R. Deanes who has been active in practice for fifty years. He is active and able. Dr. Price Ivy operates one of the finest little hospitals in the state. Good fellowship and cordiality reigned supreme. Their handshake was hearty and sincere. Dr. F. M. Smith, of Vicksburg, was an appreciated guest. He and Dr. Deanes are the only two men living who are charter members of what has developed into the Northeast Mississippi 13 County Medical Society, Clay and Oktibbeha counties. Dr. Smith is an outstanding leader in public health work in Mississippi.

The scientific program was good. Dr. Stacy is the new secretary and he is performing in fine style. Dr. Eugene Johnson of Memphis was the guest speaker. But few if any surgeons in the United States have performed more operations than Dr. Johnson. In the area of operation he has but few equals. When he talks on a subject he hits right to the heart of it and takes the meat out of the cocoanut. Dr. Johnson is tall and commanding always immaculate in dress and ever wears his million dollar smile. We were glad to have him. Dr. R. L. Sanders was another Memphis visitor who is always welcome. He discussed Dr. Johnson's paper and he made a most interesting talk at the banquet on medical economics praising the small hospital for its fine work and showing the importance of affiliation between it and the larger ones in the big medical centers. Dr. Sanders is a student who ever digs to the bottom of the subject in hand. We had a number of other appreciated visitors. Dr. J. H. Harris, of Memphis, was with us. He came down to see his aged mother which indicates the good stuff out of which he is made and sat in with us while near by.

The banquet and entertainment furnished by the good ladies was the crowning pleasure of the meeting. We shall look forward with pleasure to a return to West Point.

The course in obstetrics that is being carried out to the busy practitioner in Mississippi is a great step forward. We should be very grateful to Dr. Underwood and to the Commonwealth Fund for their part in this. The batting average of the practitioner must be raised. The field is surely white unto harvest in this special branch, obstetrics. Medical education must be carried to the busy practitioner. This is only the beginning. It is pioneer work. Watch it grow and develop. It is the sensible thing to do. It is the economical plan. It is a service that the hardworking and noble practitioner deserves. Carry medical education to the busy practitioner out on the commercial firing lines of medicine and surgery. It is the new order in the new day in medicine. The small hospital is a great aid in this plan.

Charity funds for the indigent sick in the State of Mississippi should be distributed on a per capita basis. This is just. This is fair.

Up in New York City the other day, a celebration was held by the medical profession in honor of Dr. Allan Defoe, who brought the five Dionne babies into the world.

Learned surgeons, physicians and professors were present, all to do honor to "the country doctor" who brought in the quintuplets, the first in the history of the world to be born and live.

It is a fitting spectacle to see this recognition and honor come to that vast branch of the medical profession known as "the country doctor."

He is called into service at all hours of the day and night. The weather doesn't get too cold, the night too dark, or the roads too sloppy for him to go on his round of duty, in many cases where he knows in advance that he won't be able to collect one penny for his services.

Few are the professions or businesses today that reach the height of dignity and service attained by the medical profession.—Neshoba Democrat.

You are right Mr. Editor. You have spoken well and truthfully. Dr. Dafoe has astounded the world. He is a great baby specialist. The world did not know it. They do now. It was a fine and a noble spirit on the part of the doctors of New York to do him honor. This is as it should be. We have been hoping and longing and believing that some time a man's ability would be recognized and appreciated no matter the size of the town in which he lives. This should be true in the medical profession and in all others. City limits should make no difference. There should be no wall between the city and the country. We should all work hand in hand. If a country doctor in the smallest town demonstrates his ability in some line, in all lines by the artful application of the known medical truths, he should be recognized, he should be honored. There should be no wall between country practitioner of surgery or medicine and the specialist. They are of equal importance in the field of medical economy and medical service. The American Medical Association would do well to elect a few country practitioners president of the American Medical Association to show that it is willing to recognize merit where ever it is found and when ever rendered. The super specialist in the large city is positively essential to medical progress, but he does not know one half the medical needs in the rural community. This is the day of application of the known medical truths. This requires art and it requires leadership. It is time for the American Medical Association to recognize these facts and to act accordingly. We have a big army of Dafoes who are just as able and just as deserving as the one in Canada.

Get a copy of Culture in the South and read it. The doctor should be the most broadly educated man of all, especially in the new era of practice. We are not dealing with medical problems as we should. To do it successfully we need to know our South, our State, our county, our individual patient in all of his relations to life.

The small hospital and the medical center needs to be affiliated. Each can help the other. Eighty-five percent of surgical cases can be handled just as well at home in the small hospital, but the country surgeon should be sure to refer the others,

Dr. Luther McDougal, Jr., of Booneville, is now in Providence Rhode Island for a two year course in pediatrics. He graduated from Vanderbilt and has taken one year at the Babies' Hospital in New York. When he has completed this two year course he should be as well equipped as the best. It is refreshing to know that he expects to locate in a small town in his native state to practice his specialty. He will be a pioneer in a needed field. He will be blazing the way in the decentralization of the specialists in medicine. His efforts shall not be in vain, because the opportunity for service is great. Here are our cordial good wishes to you Dr. Luther. We believe you are actuated by a noble impulse.

Dr. Deanes, President of the Northeast 13 County Medical Society is beginning his second fifty years of practice stronger than he did his first. We hope he is going to round out a hundred.

Better have a country surgeon operate on you in a five bed hospital within five hours of onset as to have a Mayo operate in a five hundred bed hospital three days later, about the average time for appendix operations.

We regret that Dr. Lippincott did not get over to our meeting at West Point. He knows hospitals and we were anxious to hear his discourse on this subject.

Make ready to go down to the State Medical Meeting at Biloxi. It will be good to be there. You should attend your state meeting.

Medical ethics is all right, but when it stands between you and the life of a patient better say to it, "get thee behind me Satan."

When your patient has an acute attack of appendicitis say to him, "close your mouth and save your life."

Whiskey as a beverage is just as much out of date as an ox team or a bull tongue plow. The medical profession should be able to recognize this.

We know a lot about appendicitis, but we are not successfully dealing with the problem.

Again we say Dr. Time is the most successful surgeon who has yet operated for appendicitis.

This machine age calls for medical service out on the commercial firing lines.

We know quite a bit about malaria, but we are not getting very far with the problem of malaria.

DR. SEALE HARRIS

Gastro-intestinal and Nutritional Diseases
Diagnostician
2234 Highland Avenue
Birmingham, Alabama

We feel sure that you will read every paper in this issue of the journal with much profit and genuine pleasure. In *The Mississippi Doctor* you will find readable papers and useful papers, practical and scientific. One of the most interesting papers in this issue we are sure is the one by Bastedo of New York. It is a very important paper. It is the last word and the best authority to be found on a subject on which you need to be informed. Dr. Bastedo is a great student. He is the essence of accuracy. He is a man of fine balance and wonderful reasoning power. His mind goes straight to the truth just as a hungry cow to a cornfield. He is a scientist who is willing to let the truth take its course. He carries with him a great storehouse of general information and is most interesting in conversation. Read every paper and note its contents. They are as valuable as gold.

We have a fine bunch of papers in the hopper for the next issue. Tell your friends about *The Mississippi Doctor*, the journal with a mission.

We appreciate our advertisers. All things else being equal trade with the men who trade with us if you please.

Dr. W. W. Phillips



Here is a likeness of Dr. W. W. Phillips, of Oxford. He is president of the North Mississippi Medical Society. He is a native of Lafayette County. He had his college training in Davidson College, North Carolina. He graduated in medicine from the North Carolina Medical College. He has served as secretary of the North Mississippi Medical Society. In addition to being an active and able practitioner, he is a very progressive citizen. He is active in every thing that makes for a better town, better schools, homes, churches and roads. He has served on the Board of Aldermen of Oxford and is a charter member of the Kiwanis Club of Oxford. He has been associated with the Bramlett Hospital for about twenty years. "An able practitioner and a valuable citizen." He will make a fine president of this association.

Book Review

No book seeking to portray the life and occupation of the South has succeeded more faithfully than "Culture In The South," edited by W. T. Couch. There are thirty-one contributors with Mr. Couch to the whole work, embracing educators of vision and tolerance from practically every section of the South. There is a clear unity of purpose that transcends sectionalism or controversial argument over terms long applied to the South—such as its "traditions," "agrarianism," "clannishness" or general reticence when compared to Northern aggressiveness. The editor included in the variety of subjects chosen the fundamental aspects of Southern life and its problems. So accurately and conclusively are the views of the South's heritage, its true culture, its industry, agriculture, politics; its literature, education and religion; its arts and handicrafts, presented that one can only read with appreciation and certain inspiration. Opinions vary somewhat in the discussions of farm problems, the Negro and the future of the South's classes, and these opinions are important. Every Southerner should read "Culture In The South," should rely upon it as a valuable source of information.

Mr. Couch is very interested in improving farm life in the section of North Carolina in which he lives, but which section knows the same problem as do the rest of the eleven strictly Southern states.

The book recognizes the weaknesses as well as the finer aspects of life in the South. It faces its problems with truth and a desire mend and rebuild. It challenges the reader who cherishes his inherited conception of Southern culture to take stock and rekindle his enthusiasm for a better South, forging the finer parts of its past into a happier, more enlightened and progressing South of today.

Published by University of North Carolina Press, Chapel Hill, N. C. Price \$4.00.

Book Review

THE AUTONOMIC DISEASE or the RHEUMATIC SYNDROME by T. M. Rivers, M.D.

In this volume Dr. Rivers gives a very learned discussion of the autonomic nervous system and its relation to certain organs of the body and to the tissues of the body in health and disease. Following this we have a more definite discussion of the resulting diseases. Dr. Rivers has done extensive research work in relation to the rheumatic or rheumatoid conditions and this being the first work of this kind reported makes it much more interesting. In this book we have a new discourse on arthritis and "rheumatism" and it is written from a very practical viewpoint. The author has done general practice for nearly forty years and this book should appeal especially to the general practitioner. Dorrance & Company Publishers, Philadelphia. Price \$3.00.

Dr. A. E. Bostick



Now here is a likeness of the Dr. Dafoe of Mississippi, Dr. A. E. Bostick, of Iuka. During 1934 he delivered 191 babies, averaging one every forty-eight hours, and led the physicians of the state in deliveries for the year. Another Iuka doctor, Dr. Whitehurst, won this distinction not long before his death. Iuka is a "quiet little town" of culture and refinement. It is the home of Gov. Stone who served Mississippi so long and so well as its chief executive. At this time the Pick Wick Dam activities are making the town hum.

Dr. Bostick is a native of Alabama, the son of Mr. and Mrs. W. F. Bostick. He is the third child of ten, nine still living. He began teaching at the age of eighteen, and practising medicine at the age of thirty-two. He not only has a large obstetrical practice but he has a very large general practice. He has treated one hundred cases of typhoid fever without the loss of one patient. He feeds the patient liberally, in fact, anything the patient calls for. He feeds them from the beginning. He has used thytuitary quite a bit and finds it helpful and safe, in many cases. Dr. Bostick is a man able to meet the situations as they arise. He is active in church work and progressive in civic affairs.

Book Review

Many a gallant and memorable figure stalks across the pages of "The Romance of Exploration and Emergency First-Aid," a booklet just issued by Burroughs Wellcome & Co. It emphasizes the value of an efficient, compact, medical equipment. In it you will find the high spots in the careers of most of the great modern explorers. Beginning with James Bruce in the XVIII Century, the pages dealing with Arctic travel start with Eric the Red and those telling of high adventure in the Antarctic include sketches of Captain Cook and the Russian Admiral Bellingshausen. It is a compendious handbook of most of the important achievements in discovery in the last two centuries. It surveys rapidly the amazing histories

of Stanley and Livingstone in Africa and also tragedy of Dr. Mungo Park. Burton and Speke, Grant and Sir Samuel Baker, Emin Pasha and the Baron Dhanis are other heroes of African adventure to be found in this little volume. Also the stories of Sir John Franklin and those who went to the Arctic to find him, General Adolphus Washington Greely, Peary, Nansen and Andree, Walter Wellman and Vilhjalmur Stefansson, the Roosevelts, Roy Chapman Andrews and Sven Hedin, the Duke of the Abruzzi and Dr. Alexander Hamilton Rice, and pioneers of aerial navigation, from Bleriot to Lindbergh.

Dr. I. P. Burdine, Sr.

Dr. I. P. Burdine, Sr., is dead. He died Wednesday morning about seven o'clock February the 13th. He had been in the Gilmore Sanitarium about a week. He was buried in Masonic Cemetery at Amory, Thursday afternoon. His was an eventful and useful life. Altho handicapped by ill health for many years, he carried on bravely until the end. He was a most brilliant man—was, in the fullest sense, an educated man. He knew **much** about **many** things. He was a lover of nature and a close student of nature as well. Trees, flowers, birds and other living things were as younger brothers to him. His was a wonderful personality. He was fascinating to a great degree. He had the capacity to make and hold friends. Few men have more friends than had he. He was gifted as a conversationalist, and by reason of his knowledge of things and events, he was exceedingly entertaining. His interest in organized medicine was not as keen as that of some others, but I always attributed that to his poor health. He was well informed, an independent thinker and self reliant—possibly these facts held him, somewhat aloof from others in the profession. He was a good surgeon, his technique was excellent. He was an artist as well as a scientist in his practice of medicine and surgery.

No one knew and appreciated him and his ability better (perhaps not so well) than I. For many years in the early part of the present century, he and I were full partners in our work. This association was very close and congenial. Only his failing health could have terminated this association. His course is run—his work is done—his life was a blessing to many—his place can never be filled with those who loved him for his most excellent qualities. A giant tree has fallen in the forest. It will require much time for nature to grow another of his kind.

G. S. BRYAN

Amory, Miss.
February 21st, 1935.

During February, Dr. Underwood attended the special called session of the House of Delegates of the American Medical Association, and following that represented Mississippi at the Annual Congress of Medical Education and Medical Licensure, Chicago.

What the Physician Should Know About Tobacco Smoking*



WALTER A. BASTEDO, (Ph.M., M.D., Sc.D., F.A.C.P.)
of New York

Tobacco is not a medicine that we prescribe. As physicians, our interest in tobacco lies, not in its therapeutic possibilities, but in our need to give advice about its continuance or discontinuance.

In 1930, in the United States, over six billion cigars and 123 billion cigarettes were manufactured, that is, about 87 cigars and 1500 cigarettes for every inhabitant, male and female, over 14 years of age, and nearly fifteen times as many cigarettes as were produced twenty years earlier. Besides this are the pipe and chewing tobaccos and thirty-five to forty million pounds of snuff.

At Salem, N. C., a tobacco center, Johnson chose 1000 men in sequence from the telephone directories of five neighboring towns, and ascertained that 81.8 per cent of these were smokers. At the Mayo Clinic, in a group of male patients, Barker found 74 per cent of smokers, and at New Haven, in 300 private patients of both sexes, Blumer found 66 per cent. We are a nation of tobacco users.

The outstanding pharmacologically active constituent is nicotine, a rank-smelling tarry volatile liquid alkaloid that is used by itself in high dilution to kill plant lice. In Virginia tobaccos the Virginia Agricultural experiment Station reported from 1.68 to as high as 6.17 per cent of nicotine. Havana tobaccos, most prized for cigars, contain 0.9 to 1.4 per cent. In commercial forms of smoking tobacco, the Connecticut Agricultural Experiment Station found that pipe tobaccos contain 1.45 to 2.84 per cent of nicotine, cigars 0.91 to 1.8, and cigarettes 1.06 to 3.11. Among cigarettes, the Egyptian or Turkish variety yielded 1.25 to 1.5 per cent, the American blends 1.9 to 2.53, and the strictly American up to 3.11 per cent. These are the figures from air-dried tobacco. In to-

bacco as smoked there is 5 to 50 per cent of moisture, and as cigarettes dry so rapidly either glycerin or di-ethylene-glycol is added to keep them moist.

TOBACCO SMOKE. That known as the "end smoke" or "side smoke" comes from the ignited surface when suction is not being made. It differs somewhat from the "puffed" or "suction smoke," and is more irritating to the eyes and nose, and more toxic to the air of a room.

The **PUFFED SMOKE** is composed of suspended particles and gases and contains many ingredients, the more noteworthy of which are: the alkaloid nicotine, pyridine and its derivatives, carbon monoxide, several aldehydes, hydrocyanic acid, methyl alcohol, a volatile oil to which the aroma is partly due, and from 6 to 30 parts per million of arsenic. The protein and structural parts of the leaf when burned account for a part of the rankness or strength of taste. The nicotine and pyridine bases form an irritating tarry oil that partly condenses in the stem of a pipe or in the stump of a cigar or cigarette. Smoking a stump volatilizes this, consequently the nicotine and other tarry materials in the smoke increase as a cigar or cigarette is smoked nearer to the end. They also increase with the moisture in the tobacco, with the tightness of packing and with the rapidity of smoking. From the ordinary smoking of cigarettes Bogen found 15 per cent increase in the nicotine of the last third, but after rapid smoking by strong continuous suction the last third contained 66 per cent more nicotine.

Owing to the greater heat generated the smoke from a pipe contains the most alkaloid, and cigarette smoke the least; yet there is compensation, for not all of the nicotine from the pipe enters the mouth, but some condenses in the stem, to be removed when the pipe is cleaned. Owing to the smaller degree of heat and the more complete oxidation and combustion,

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*Presented at the annual meeting of the Mid-South Post Graduate Medical Assembly, Memphis, Tenn., Feb. 13, 1935.

the smoke of a thin cigar contains proportionately less of the nicotine than that of a thick cigar, and the smoke of a cigarette still less.

Of the nicotine, some is destroyed in the combustion and some condenses before it reaches the mouth, so reports on the amount in the smoke and on the amount absorbed differ materially. Baumberger's figures will suffice. Assuming that the average American cigarette weighs one gram, contains 2.2 per cent of nicotine, and is two-thirds smoked, he estimated that it would furnish 3.78 mg. of nicotine to the smoke. He also figured that up to 66 per cent of this might be absorbed in the mouth, and up to 88 percent if inhaled. As much of the smoke seems to be exhaled, these figures appear high. But that they are substantially correct is suggested by the finding of Maddock and Coller that such an amount of nicotine, administered intravenously to human subjects, produced the same effect on blood pressure, pulse rate and surface temperature as the smoking and inhaling of one cigarette. Inhaling, a habit limited essentially to cigarette smoking, not only increases the absorption, but hastens it, for the lungs present a rapid means of introducing the poisons into the circulation.

The paper of the cigarette is of no moment. Barker tested the smoking of cigarette papers in a pipe, and Wright and Moffatt that of cigarette papers made into cigarettes. The effects were negligible.

As a habit drug, tobacco is peculiar. The most prized tobaccos are not those with the highest percentages of nicotine, and the gratification does not come wholly from a physiological effect. The latter is indicated by the lack of satisfaction from smoking in the dark or from using the tobacco in some unaccustomed way, as in a pipe instead of cigarettes, or as snuff instead of smoking. As a rule the blind obtain little if any comfort from smoking, and it is reported that many heavy smokers who returned to tobacco after being blinded in the war soon gave it up. Moreover, there are no nicotine habitues, for nicotine fails to satisfy. It is obvious that part of the satisfaction from smoking must come from something other than its physiologic effect.

Furthermore, when the use of tobacco is suddenly stopped there is no great physiologic reaction, the withdrawal symptoms being essentially the psychic disturbances associated with breaking a confirmed habit. In this it differs from morphine, heroine, cocaine, hashish, marihuana and other vicious habit drugs.

In habitues who smoke 20 or 30 cigarettes a day, Wright and Moffatt, Baker and several other observers have noted that the toxic actions of nicotine might follow the rapid smoking of even a single cigarette. Thus heavy smokers probably keep close to a state of poisoning, but each such person knows from experience how much and how rapidly he can smoke without beginning symptoms, and keeps free from these by not exceeding his limit in a given time. An old cigarette smoker may feel ill from smoking a cigar, because he is not accustomed to smoking so much tobacco without an interval. The best general antidote or preventive of nicotine poisoning is coffee or caffeine, and for the nausea and vomiting, atropine.

CARBON MONOXIDE. Smoking, and even being

in a room with a smoker, results in a rise of the carbon monoxide hemoglobin in the blood, and especially is this the case from the rapid smoking of cigarettes. But to produce measurable symptoms the carbon monoxide must reach 15 to 20 per cent saturation of the total hemoglobin. After 15 cigarettes, the highest hemoglobin saturation found by Hanson and Hastings was 6.7 per cent, and after ten pipefuls, 4.1 per cent. Following intensive smoking in a confined space, investigators from the Bureau of Mines failed to find any approximation to a dangerous concentration of carbon monoxide. However, heavy smoking may increase the danger to those already exposed to high percentages of carbon monoxide, as chauffeurs and those who ride in closed cars with leaky exhausts. And it is possible that the diminished power of the blood to carry oxygen may be in part responsible for tobacco weakness and headache, especially in the debilitated.

ALDEHYDES. Formaldehyde and furfural aldehyde, the latter known as furfural, are volatile and irritating. In the smoke from American cigarettes, Bogen found many times as much aldehyde, including furfural, as in that from oriental brands. Furfural is also a constituent of the fusel oil of alcohol, and both alcohol and tobacco headaches have been attributed to it. The London Lancet analyses indicated that one cigarette might furnish as much furfural as two ounces of whisky. **ARSENIC** has been blamed for a tobacco dermatitis reported in tobacco buyers and workers in raw tobacco. But, of the pharmacologically active constituents of the smoke other than nicotine, practically none are present in sufficient quantity to have measurable physiologic effects beyond local irritation.

ALLERGY. Besides the known pharmacologic constituents, intracutaneous and patch tests on the skin suggest that some protein or other undertermined constituent of tobacco may produce sensitization reactions in certain susceptibles. Some of Harkavy's results with denicotinized tobacco extracts are as follows: of 166 male cigarette smokers, in the hospital with all kinds of affections, but excluding those with peptic ulcer or disease of the coronary arteries, 9 per cent gave positive reactions. Of 60 with peptic ulcer, 27 per cent were positive. Of 26 with arteriosclerosis of the extremities only one reacted, while of 36 with coronary artery disease and angina pectoris 36 per cent reacted, and of 87 with thromboangiitis obliterans 87 per cent gave reactions. Two out of five with migrating phlebitis reacted. With a solution of nicotine tartrate there were no skin reactions at all in 12 smokers. Thus in peptic ulcer, coronary sclerosis and angina pectoris, many more than the average gave positive reactions to nicotine-free tobacco, and in thrombo-angiitis obliterans nearly all were positive. Nicotine itself gave no cutaneous reactions. Seven per cent of forty-three non-smoking women reacted positively, presumably having become sensitive through

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Grenada Clinic, Grenada, Miss.

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exposure to the smoke of others.

In tobacco eczema Sulzberger found that, with three different denicotinized tobacco extracts, some patients reacted to only one, some to two, and some to all three. One patient gave a very strong reaction to Connecticut wrapper and no reaction to Wisconsin filler. One was strongly positive to the brand of cigarettes he was smoking, but not to any other brand. The eczema disappeared on omitting the brand of tobacco to which the patient was sensitive.

In tobacco buyers Rutledge reported an erythematous and maculopapular rash of the exposed parts. One developed this dermatitis when buying tobacco in North Carolina, but not when he bought in Kentucky. It has been suggested that this might be an arsenic dermatitis, but allergy tests have not been made.

A number of older smokers report a form of sensitization, i.e., they find themselves unable to smoke as much as they had previously. John Adams, second President of the U. S., complained that after using tobacco for sixty years, he found himself sickened by one quarter the amount of tobacco to which he had been accustomed.

We must think of tobacco and its smoke as having four possible distinct types of action, viz., a local irritating action, a pharmacologic action due in large measure to its nicotine, an allergic action in certain susceptibles due to its proteins or other undetermined constituents, and a psychic action.

THE LOCAL EFFECTS. There is always more or less local irritation of mouth, tongue and pharynx. If

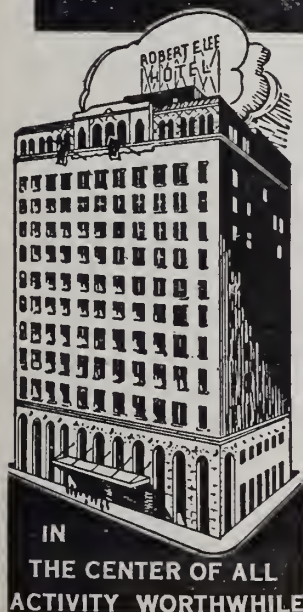
the smoke is inhaled, and perhaps to some extent in any case, the irritation extends to the larynx and bronchi, and from swallowed saliva the esophagus and stomach may also suffer. The local irritation is due to formaldehyde and other aldehydes, to the tarry oil, which contains the nicotine and pyridine, and to the products of the burning of protein and other materials of the leaf. Bogen found the most irritation from the West Indian cigarette, which contained the least nicotine and aldehyde. According to Mulinos and Osborne, glycerin added to increase the hygroscopic properties of cigarettes slightly increases the local irritation, while di-ethylene-glycol, used for the same purpose, slightly lessens it. When burned, glycerin liberates irritating acrolein vapor.

Heat may also be a factor in the irritation. The pipe smoker especially reports burning of the tongue. Bogen ascertained that when a cigarette is not more than half smoked the smoke reaching the mouth is not hot, but when smoked three quarters the heat in the mouth may reach 140 degrees F. (60 degrees C.). McNally stated that the heat from a cigar stump might reach 190 degrees F. But the biting sensation from smoking a stump is probably due to the increased amount of irritating tar as well as to the heat.

EFFECTS ON THE RESPIRATORY TRACT. Chronic pharyngitis with a hacking cough and expectoration of thick mucus is usual in old smokers, and its severity is attributed to the irritation of the smoke. Chronic bronchitis and bronchial asthma are also reported. The cigarettes themselves may have not a

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cough in a carload; the cough is in the throats of those who smoke them. According to Bogen, of 600 students who used a package or more of cigarettes a day much larger proportion reported for acute respiratory infections than of 600 non-smoking students.

The frequently repeated statement that TUBERCULOSIS is more common among smokers has been discredited. Berry reported that of 1768 American soldiers invalided for pulmonary trouble, mostly tuberculosis, 33 per cent were non-smokers, while of all soldiers only 20 per cent were non-smokers. In over 3000 men discharged from the army for tuberculosis, Major Webb found no greater proportion among the smokers than among the non-smokers.

CANCER. In regard to cancer, Hoffman, the insurance statistician, reported in 1931 that cancer of mouth, tongue, esophagus, larynx and lungs are more common in smokers. These conditions predominate in males, who, until recently, have been the smokers. However, in 1934, the New York Department of Health exhibited charts showing no increase in mortality from cancer of lip, tongue, mouth and jaw with the greatly increased use of tobacco in the last few years, and no increase, but rather a decrease, of such cancers in women since smoking by women became prevalent. Moreover, cancer of the buccal cavity is no more frequent among women in countries where women have always smoked than in other countries. With tobacco tar, Helling found no carcinogenic factor for the production of epithelioma in mice, and Bogen and Loomis none for mice and rabbits. Wacker and Schminke obtained a slight atypical proliferation in rabbits ears, but this was not cancer, as it healed spontaneously. The cancer danger has probably been exaggerated.

GASTROINTESTINAL EFFECTS. Irritation of the stomach may come from swallowed saliva, but is mostly a systemic effect. Of 300 patients with functional gastric disturbances, all of whom had used tobacco for over five years. Gray found heartburn in 180, symptoms imitating those of duodenal ulcer in 51, and cardiospasm or pylorospasm in 30. Of 63 actual duodenal ulcer patients, smoking increased the gastric acidity in 50. We shall not stop to review other X-ray and test breakfast findings, for the investigators are many. Suffice it to say that the stomach usually shows a primary rise in secretion and in motility, followed at a later period by a depression of these. Carlson noted that smoking inhibits hunger contractions. In some it lessens appetite, and for a time may diminish the pangs of ravenous hunger. But patients with functional gastric disturbances have repeatedly reported to me the prompt appearance of hyperacidity symptoms when they smoked at the empty time of the stomach, and their non-appearance or diminution when tobacco was omitted. From chronic nicotine intoxication in dogs, Grossman and Jiano observed a regular development of chronic gastritis.

Friedrich, 1934, reported that of 153 men operated upon for ulcer 79.7 were pronounced smokers. He found that persons with a weak stomach or already with an ulcer were injured by smoking, and that smoking on an empty stomach was especially damaging. But, since women took to heavy smoking, he has been unable to find any increase in the female incidence of ulcer. Wagner, Eustermann and many other clin-

icians have stressed the fact that in young adults smoking may be the cause of symptoms indistinguishable from those of duodenal ulcer.

In intracutaneous tests with denicotinized tobacco extracts, Ehrenfeld and Sturtevant found only 2 positive reactions in 55 patients with peptic ulcer, all smokers. But in 60 patients Harkavy obtained 27 per cent of positive reactions, as compared with 9 per cent in hospital patients not having ulcer. Thus the gastric symptoms may be allergic, and not always due to nicotine or to local irritation.

There is no evidence that tobacco bears a causative relation to peptic ulcer, but in treating ulcer patients and those with pronounced hyperacidity symptoms, I join with others in forbidding its use, except in a few patients of the emotional type whose nervousness would be increased by the prohibition. In those I keep the amount restricted.

Of intestinal effects, other than the diarrhea of nicotine poisoning, Danicopolu demonstrated with the X-rays that smoking produces colonic hyperirritability, which shows in either diarrhea or spastic constipation.

THE SECRETION OF MILK. Experiments are too few for satisfactory conclusions. A physician reports that for generations in Cape Breton the women have smoked (a pipe?) heavily from girlhood, yet through the generations have raised and nursed very large healthy families. From rather large doses of nicotine, cows and cats have shown diminished or wholly checked lactation. According to Hatcher and Crosby, the smoking and inhaling of seven cigarettes in two hours by a habituated nursing mother caused a marked decrease in the secretion of milk, and the milk showed traces of nicotine. But members of the Department of Obstetrics and Gynecology at Cornell Medical College reported to Hatcher that they had not observed any diminution in the secretion of milk or any effect on a child from smoking during lactation. Mlle. Grimpert found no nicotine in the milk.

THE UNBORN CHILD. After many smoking tests on four prospective mothers who were habitual cigarette inhalers, Sontag and Wallace reported a regular increase of about five beats in the rate of the fetal heart. In a fifth who had never smoked before, smoking with inhaling slowed the fetal heart rate. This is in line with the findings of others and suggests a nicotine action, but its significance is not yet known.

THE REPRODUCTIVE SYSTEM. It was formerly believed that tobacco tended to produce abortion. But Frankfurt reported that in harems where the women smoked all day long there were no abortions, Grimpert in Paris could find no evidence of an effect on pregnancy, and recent studies among women tobacco workers indicate no increased percentage of miscarriages or premature births. The charge that menstrual derangements are due to tobacco has also been shown to be unjustified. A number have recorded a partial sexual impotence in the male, but this

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requires substantiation.

GROWTH. It is a general belief that the use of tobacco by the young will retard growth, and in experiments with young animals Richon and Perrin, Fleig, Guillian and Gy and others have observed such an effect. In 1929, however, Thienes reported that young mice and rats, given repeated doses of nicotine large enough to produce convulsions, were slightly heavier than the controls or ran about even with them. In spite of the extensive increase in the use of tobacco by adolescents in the last fifteen years, it has been found that the college men and women of today average more than an inch taller than their alumni fathers and mothers did while at college.

THE BLOOD SUGAR. Patients with acute poisoning by nicotine have shown a high blood sugar and sometimes glycosuria, and, following the smoking of cigarettes, the Lundbergs, and also Haggard and Greenberg, have found an increased sugar concentration in the blood. Haggard and Greenberg reported that, after one to three cigarettes, the rise began in about fifteen minutes and lasted half an hour, with a corresponding increase in the rate of sugar combustion, and relief from the fatigue and irritability that generally develop soon after the blood sugar has dropped to the fasting level. To this restoration of sugar and its increased utilization they attribute "at least a considerable part of the gratification from smoking." But if the pleasure in smoking were dependent upon a rise of the sugar level in the blood, such pleasure could be produced equally well by taking orange juice or a few lumps of sugar, which is not the case. Moreover, there is general agreement among

smokers that the most gratifying smoke is not that on an empty stomach, but rather that which follows immediately after eating.

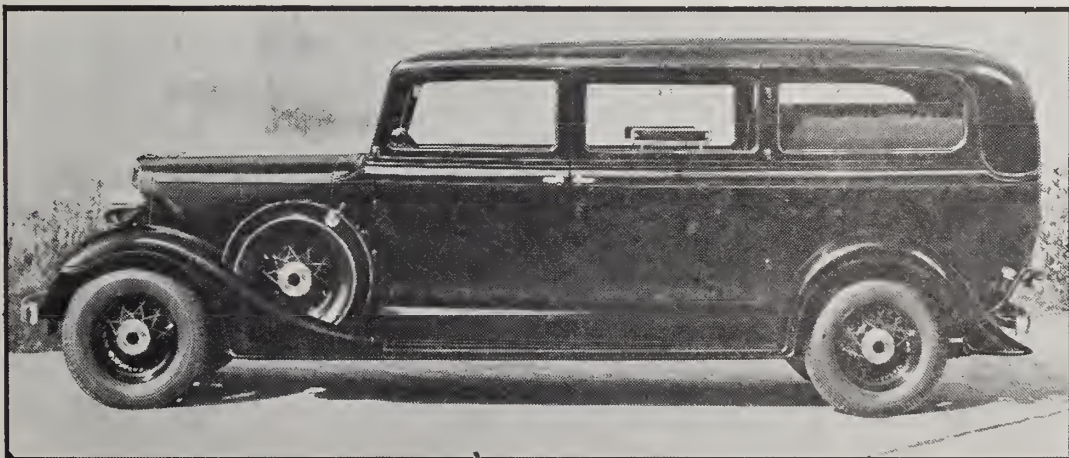
A contrary result was obtained by Dill, Edwards and Forbes, 1934, who, with frequent extractions of the blood before and forty-five minutes after one cigarette, found no change in the blood sugar in ten fasting persons and in one person who smoked three hours after eating.

PHYSICAL EFFICIENCY. There is a widespread belief that smoking hurts the wind. To test this Turley and Harrison studied the expired air during exercise by 13 football players in active training who did not smoke and 75 medical students, of whom 42 were non-smokers and 33 smoked over 20 cigarettes a day. The exercises lasted two minutes and were of two grades, the equivalent of walking at a moderate pace and the equivalent of slow running. The experimenters found that the average vital capacity and the average ventilation per square meter of body surface were practically the same for the non-smokers and smokers, and concluded that habitual heavy smoking in the young adult does not significantly diminish the respiratory efficiency in light or moderate exercise. However a final verdict requires that further tests be made under more strenuous and more prolonged exercise, and also immediately after smoking.

In a study of soldiers at the front Parkinson and Koefod observed that four or five cigarettes could render healthy men breathless on exertion and less efficient in going "over the top". They and several German investigators concluded that soldier's heart

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was made worse by tobacco, and Thomas McCrae and others believed that soldier's heart and shell shock (war neurasthenia) were caused by it. In students, after one or two cigarettes, Fisher and Berry found that, while the pulse rate and blood pressure in the horizontal posture might not show decisive changes, the failure of the heart to meet the added strain of the vertical position was definite. They found that on exertion breathlessness came on earlier in the smoker and lasted longer. With Schneider's cardiovascular physical fitness tests, Diehl found the average grade significantly lower in the smoker, though the vital capacity might remain unchanged. A swimming champion told me that twice he had lost a one mile race as the direct result of smoking two cigarettes immediately before the race.

Pack observed a ten percent decrease in lung capacity from smoking, and recorded that, of students in six colleges competing for the football team, only half as many smokers as non-smokers were successful in the tryouts. Seaver, Physical Director at Yale, observed that smoking a single cigar resulted in a marked drop in muscular power. With the ergograph, Palmen, Raphael, Hough and others have demonstrated lowered muscular efficiency in man.

It is probable that in ordinary activities a reasonable amount of smoking does not impair the physical efficiency to any great extent; but it is the consensus of opinion that the highest muscular efficiency, endurance and skill and the ability to meet physical strain are incompatible with smoking, and particularly with smoking just preceding the event. That this is the feeling in athletic circles is attested to by the almost universal voluntary or enforced abstinence from tobacco during training for athletic contests. Older smokers commonly attribute their limited endurance and capacity for vigorous exercise to their long use of tobacco, and a number of men in their sixties have felt an improvement after its abandonment.

To summarize: The indications are that physical efficiency is lowered at the time of smoking, but not to a noticeable extent unless the energies are being strained to capacity. Years of smoking may prove physically injurious to some, yet, even in the old, abstinence may be followed by improvement.

MENTAL AND NERVOUS EFFECTS. Earp reported that in 304 male students the non-smokers were the better scholars, and that, in one year, of 23 students dismissed for low scholarship, 21 were smokers. Clark recorded that among 201 students 46.3 per cent smoked and only 18.3 percent of these received academic honors, while of those who did not smoke 38.5 per cent received honors. There are many other similar reports. And yet these facts do not necessarily convict tobacco, for it is obvious that men of poor caliber and indolent habits are more prone to use tobacco to excess than the ambitious workers. Indeed, Earp later conceded that the poor scholarship depended on the type of man rather than on the tobacco.

In a series of 120 tests in each of 15 smokers, Bush showed that at the end of the habitual smoke there was a 10.5 per cent average decrease in mental efficiency, most marked in the fields of imagery, perception and association. He noted the greatest loss of efficiency in the cigarette smokers. Hull, Abrams and

others have had similar results. Dunlap, and also Carver, found that the immediate effect of smoking was a lowered accuracy in finely coordinated reactions, without change in the speed of complicated reactions. In habitual smokers, however, deprived of their tobacco at the usual time for smoking, Dunlap observed, as others have likewise, that the accuracy of coordinated reactions might be less than normal before smoking, with a return to normal after the customary smoke.

A tremor of the hands immediately after smoking is not uncommon in the habituated smoker, and has been reported to me by smokers as affecting their writing or as affecting the touch in piano-playing. The National War Council of the Y. M. C. A. found that a single cigar lowered accuracy in rifle shooting, and Fisher and Berry showed the same effect on baseball throwing, with a return practically to normal after thirty minutes rest without smoking.

In telegraphers who were smokers, but did not smoke while at work, Baumberger and Martin record that the light smokers rated 40.1 in efficiency, while the heavy smokers rated only 38; and that in response to the increasing pressure in the late hours of the day the light smokers accomplished more than the heavy smokers and responded more readily to the added requirement. With small doses of nicotine, Wahl found a lessened capacity for intellectual work, alike in smokers and non-smokers.

We might summarize as follows: Immediately following smoking there is a period of depression of mental ability and of accuracy in coordinated reactions, recovery from which is rapid. Frequently repeated smoking may continue the cerebral depression, but habit renders smoking a necessity for the best work.

We must consider tobacco a mild and short-lived narcotic, this action showing in a tendency to depress mental and reflex activity, and to promote the spirit of ease and comfort and laissez-faire rather than keen attention and effort. While the smoker may feel ill at ease, less efficient mentally and unable to concentrate until he has a smoke, nevertheless, if he smokes too much or too rapidly he may lose his energy, his desire to work, and his power of concentration. I am wont to say to my tobacco using students, "When tired, tobacco rests you; but when you are rested, tobacco tires you". It is a narcotic that cannot be indulged in beyond a very limited degree, because of the onset of the toxic actions of nicotine.

Both through a psychic satisfaction to the habitue and through a pharmacologic narcotic effect, a

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smoke will frequently ease nervous tension. The war taught us the calming effect on the wounded soldier of the lighted cigarette handed him, and at examinations I have now and then found a student in a nervous funk till allowed a cigarette. We all know the quieting value of a smoke to a relative when some loved one is being operated upon, and to the surgeon also after a difficult operation. Smoking in moderation may indeed favor that relaxation of mind and body that we physicians stress so much for those with worries, anxiety neuroses and other psychic disturbances.

We shall not stop to dwell on the occasional production of **psychoses or other mental states**; nor on the alleged harmful effects to **tobacco workers**, which recent statistics show are slight, if any.

CIRCULATION. As physicians our greatest interest lies in the possible deleterious effects on the heart and arteries.

THE HEART. An accelerated rate at the time of smoking is a not infrequent finding, and it is often a continuous state in old smokers. In cigarette smoking medical students, Maddock and Collier observed a regular rise of from 8 to 38 beats from a single cigarette, with return to the previous rate in 5 to 30 minutes. Stachelin smoked six to eight cigarettes a day for six months, then abstained for six months. During the abstention his mean pulse rate was 75, during the smoking 82. A standard exercise during the abstention period caused the rate to rise to 124, while during the smoking period the same exercise produced a rise to 157 and it took longer to return to normal. Other evidences of cardiac

depression have been mentioned under "Physical Efficiency".

Tobacco heart occurs in some who smoke immoderately. It is a condition with breathlessness on slight exertion, palpitation and precordial or substernal distress or pain, without signs of organic change in the heart. There are reports of collapse and even death in such patients when traveling over high mountains. In addition, tobacco has quite frequently been the cause of extrasystoles, and there are reports of its having brought on auricular fibrillation, auricular flutter, sinoauricular heart block and auriculoventricular heart block.

From the records of about 15,000 smokers and non-smokers, Fisk of the Life Extension Institute ascertained that among the heavy smokers there were ten per cent more than the average with organic heart disease and 15 per cent more with overrapid pulse.

Thus it is beyond doubt that both at the time of smoking, and following a prolonged period of smoking, the heart may be depressed and the pulse more rapid. Immoderate smoking may produce a marked degree of cardiac instability. Smoking continuously through the years may possibly, though not certainly result in organic changes in the heart.

THE VESSELS. With habitues, mostly cigarette smokers, Maddock and Collier, Barker of the Mayo Clinic, and Wright and Moffatt have demonstrated that after the smoking of one to three cigarettes there is frequently a marked drop in the skin temperature of fingers and toes, even as much as ten degrees. Such a reduction in temperature is an indication of

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vasoconstriction. The reaction was more marked when the subject inhaled or smoked rapidly, and bore no relation to the length of habituation or the number of cigarettes habitually smoked. In some it lasted over thirty minutes. In two subjects in whom they had blocked the posterior tibial nerve of one leg with procaine, Maddock and Collier found that smoking produced no effect in that leg but marked effect in the other, an indication that the effect came through the sympathetic nerves. In 17 out of 40 cigarette smokers, following each inhalation, Wright and Moffatt observed a momentary slowing or stoppage of the blood flow through the capillaries of the nail fold. This occurred only in the inhalers.

GENERAL ARTERIOSCLEROSIS. This affection is common among non-smokers, often runs in families equally among the smokers and non-smokers, and according to some statistics appears in as large a proportion of non-users as of users. A discrepant figure is that of Fisk, who found that among excessive tobacco users six per cent more than the average had arteriosclerosis. Standing alone, this is too small an increase to be decisive. In 26 patients with arteriosclerosis not involving the coronaries, Harkavy found only one cutaneously sensitive to denicotinized tobacco extracts. **INTERMITTENT CLAUDICATION** has been attributed to tobacco, and, though this effect is not proven, the stopping of its use may be wise.

THE CORONARY ARTERIES. In laboratory animals full doses of nicotine produce constriction of the coronaries, but in the isolated rabbit heart, Laubry, Walser and Deglaude have recently demonstrated that, while large doses of nicotine or tobacco infusion cause coronary constriction, small doses result in dilatation with increased coronary blood flow. From the amount of nicotine furnished by as much as 20 cigarettes a day, they believe that dilatation of the coronaries is the only effect obtainable.

In 1075 men with coronary sclerosis Pawinski found excessive smoking in 41.9 per cent, while in 2081 patients with arteriosclerosis not involving the coronaries the heavy smokers constituted only 23.3 per cent. But in 150 patients with coronary occlusion and in 150 healthy persons of the same age and sex ratio, Blumer found almost identically the same proportions, that is, 30 per cent of excessive smokers and 36 per cent of mild or moderate smokers.

In those with angina pectoris, Gallavardin found 69 per cent of smokers among 200 patients, but only 18.5 per cent were immoderate smokers. In 60 fatal angina cases in males Johnson found 70 per cent of smokers, in a locality where 81.8 per cent of the males smoked. In 750 angina patients, 566 men and 184 women, White and Sharber reported 53.9 per cent of smokers, a smaller proportion than in 750 controls of the same age and sex ratio, of whom 62.8 per cent smoked. In most instances no special frequency of smoking or of heavy smoking has been recorded among coronary artery patients.

That smoking may precipitate angina attacks in some patients is a not uncommon clinical experience. In five such Ralli and Oppenheimer demonstrated that promptly on smoking there was peripheral vasoconstriction, quickly followed by the paroxysm. The pain disappeared with vasodilatation. They assumed that the coronary arteries responded in the same manner as the peripheral. I have been disposed to for-

bid the use of tobacco in all angina cases, but Wright and Sharber find it the cause of paroxysms in only an occasional patient and therefore allowable for the others, and Harlow Brooks permits it for those, "a not inconsiderable number," who find that it gives relief from the paroxysms. In other words the decision as to its use depends on the patient's own experience.

With nicotine-free tobacco extracts Harkavy found cutaneous sensitization in 4 per cent of 26 with general arteriosclerosis and in 9 per cent of hospital patients with various diseases, while in those with disease of the coronary arteries and angina pectoris the reactions appeared in 36 per cent. Thus it is possible that, after long years of use, tobacco may be a contributing factor, and possibly an etiologic factor, in disease of the coronary arteries, not only through its nicotine action, but also on account of a specific sensitization to tobacco.

THROMBOANGIITIS OBLITERANS. This serious disease of the limbs is almost confined to tobacco users, and indeed almost confined to cigarette inhalers. In 350 patients at the Mayo Clinic, Barker ascertained that 1.4 per cent were non-users, 0.3 per cent were chewers, 6.8 per cent smoked cigars or pipe, and the remainder, 91.5 per cent, used cigarettes. Heavy smoking was the habit in 61 per cent, while of the controls it was found in only 26 per cent. It is striking that though many cigar smokers consume ten or twelve cigars a day, the equivalent in tobacco of 50 or 60 cigarettes or more, they furnish an exceedingly small proportion of the cases of thromboangiitis.

With skin temperature tests in two patients, Maddock and Collier found that the already deficient circulation in the feet was still further reduced on smoking a single cigarette. Sulzberger obtained cutaneous reactions to nicotine-free tobacco extracts in 78 per cent of 24 cases and Harkavy in 87 per cent of 87 cases, findings that suggest that elements of tobacco other than nicotine play an important role in this disease.

All observers agree that the severity of the disease tends to be greatest in the heavy users, that abstinence from tobacco is favorable, and that renewed symptoms frequently follow the resumption of tobacco. Yet of those who have the disease some are non-users, and of the tobacco users almost all are cigarette inhalers; and Barker states that in spite of continuous smoking the symptoms may disappear to recur only at long intervals. Thus while we may agree that tobacco is an important contributory cause in this comparatively rare disease, we cannot charge it with being the sole or even a necessary factor in its production.

RAYNOUD'S DISEASE AND VASOMOTOR NEUROSES. From three cigarettes in four such patients Barker found a significant drop in the temperature of both fingers and toes, an indication of vasoconstriction.

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tion.

BLOOD PRESSURE. That the blood pressure may show a rise with each smoke, even in habitual smokers, has been ascertained by a number of experimenters. For example, in eleven young men accustomed to from 12 to 20 cigarettes a day, observed by Maddock and Coller, a single cigarette resulted in a systolic increase of 8 to 20 mm. and a diastolic increase of 0 to 25 mm., with a return to the previous level in from five to thirty minutes. A second cigarette produced the same effect. Nicotine tartrate intravenously in theoretically corresponding doses acted in a similar manner.

On the other hand, not infrequently there has been no change or a drop in the blood pressure. And, to quote Dixon, "In some persons the initial rise in pressure is followed by a fall, so sudden as to cause the familiar symptoms of collapse." Grollman found no change except when the subject smoked in an unaccustomed way, as a cigar instead of cigarettes. In 150 non-smokers Johnson found practically the same average systolic and diastolic pressures as in 150 smokers. In 58 cigar smoking patients in middle and advanced life, with arteriosclerosis and high arterial tension, Thomson and Sheldon found that one cigar raised the pressure in 35 per cent, lowered it in 45 per cent, and produced no change in 20 per cent, the results being variable from day to day in the same patient. They noted that many were distinctly benefited by the soothing influence of their accustomed smoke.

Among 1021 persons with arterial hypertension, Fisk found 31 per cent of heavy smokers, a slightly lower ratio than among 13,335 with normal tension, of whom 33.1 per cent smoked to excess. The great authority, Allbutt, found tobacco not a cause of high blood pressure. Lauder Brunton and also Rolleston have stated that immoderate smokers tend to have

a low pressure, and Kuhn found this the case in heavy smoking students who did not go in for athletics. But the general experience does not support this idea, except in a few cases.

Thus in some smokers tobacco results in a rise in blood pressure and in others not, but any rise produced is not as a rule more than may accompany any ordinary activity. However, as a measure of effects on the circulation the ordinary blood pressure readings are practically worthless. To be of any use at all as indicating circulatory efficiency, the blood pressure and pulse rate must be taken, not only in the usual horizontal position, but with the subject standing up, and also after definite exercises. With such tests, after tobacco, Fischer and Berry, Parkinson and Koefod, Diehl and others have repeatedly found an unchanged or raised blood pressure in the horizontal position, while in the erect position or after mild exercise there was a significant failure of the circulatory system to respond to the added work.

THE BLOOD. Tobacco has been charged with producing anemia, but in the red cell count and the hemoglobin Walters could find no significant difference between smokers and non-smokers.

SUMMARY OF EFFECTS ON THE CIRCULATION. At the time of smoking there is a lowered cardiac efficiency, with diminished power of the heart to stand strain. In the young adult recovery from this is prompt. In primary diseases of the heart and in functional weakness, tobacco should be forbidden. Its continued immoderate use sometimes results in a chronically over-rapid pulse, in palpitation, in subjective discomfort about the heart, in extrasystoles or in outright tobacco heart. On abstinence these may disappear in a short time. There is some evidence, though not wholly adequate, that the long use of tobacco may contribute to the development of or-

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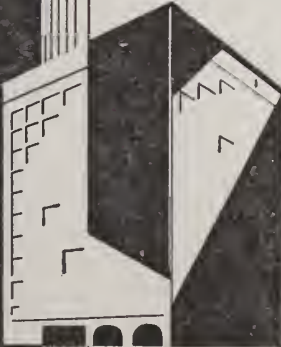
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ganic heart disease in the later years of life.

Vasoconstriction is a frequent accompaniment of a smoke, and this suggests that in the course of time organic arterial changes might result. But tobacco has not been shown to be a cause or even a contributing factor in general arteriosclerosis or high blood pressure, and in these conditions need not be forbidden. In coronary sclerosis and angina pectoris evidence of an etiologic relationship is also lacking, unless a high proportion of cutaneous reactions to nicotine-free tobacco extract should prove significant. In certain of the patients with angina pectoris it may bring on the paroxysms, in others it checks these. The rule might be that in any degree of coronary artery disease the use of tobacco should be forbidden; but an exception may be made for those patients whose accustomed smoke, through its soothing influence, proves by experience to be beneficial. But when tobacco is allowed, one would specify moderation.

In vasospastic conditions, such as Raynaud's disease, and in intermittent claudication, tobacco should be forbidden. In thromboangiitis obliterans, tobacco, especially in the form of cigarettes, is an important contributing factor in the symptomatology and shows a marked preponderance of specific sensitiveness, therefore should be forbidden.

SUMMARY OF OTHER EFFECTS. There are certain indefinite symptoms that are attributed to tobacco because they disappear with abstinence and reappear some weeks or months after tobacco is resumed. Such are irregular neuralgias, vague gastrointestinal discomfort, headache, insomnia, constipation, palpitation, etc.

But tobacco may result in more definite symptoms. In the digestive tract, besides the numbed and coated tongue, the disagreeable taste and the lack of appetite, it may produce hyperacidity or pylorospasm, imitate an ulcer, make an existing ulcer worse or induce colonic hyperirritability. In the respiratory tract it may be productive of pharyngitis, laryngitis, bronchitis or bronchial asthma. The smoker's cough is a definite entity. Effects on the nervous system may show in irritability impaired memory, mental depression, insomnia, headache and tremor. It renders migraine worse. In some cases of hyperthyroidism it raises the basal metabolism. There may be deafness from catarrh, or vertigo from an effect on the inner ear. The eyes may show floating specks, muscular weakness and amblyopia.

The list of possible adverse effects sounds ominous, yet it is apparent that only a small proportion of tobacco users suffer; otherwise, in this nation of tobacco users physicians would be kept over busy with tobacco sicknesses alone. In any case, we must not charge tobacco with causing the sickness, merely because the patient uses it.

The evidence is not convincing that the reproductive system is affected adversely, or that growth in the young is retarded. There is slight suggestive evidence that excessive smoking, with inhaling, by nursing mothers may lessen the quantity of milk and may hurt the infant; and there is some evidence that inhaling by prospective mothers may possibly harm the unborn child. The danger of its producing cancer of lips, tongue, mouth, throat, lungs and esophagus is present, but is probably very little.

GENERAL SURVEY OF THE TOBACCO HABIT.

Tobacco produces with certainty no known pathologic lesions, other than those from local irritation. Most, if not all, of its alleged immediate bad effects are removable in a short time by abstention. But tobacco may enhance the symptoms of an existing disease, may exert a selective effect on certain persons to cause derangements of function, and possibly, by its insidious action through long years, may produce organic disease. The quantity that will not harm a strong man or one living an active life in the open may be toxic to the debilitated or the indoor sedentary person. Those who have an idiosyncrasy to it find it poisonous in any amount, while others can consume considerable quantities without apparent ill effects. Tolerance is acquired to a limited extent only, and many chronic smokers are readily brought to a state of poisoning by smoking beyond their usual allowance in a given time. Though tobacco has a firm grip on its devotee, it can be stopped at once without fear of any physiologic reaction.

We think that for a number of users it is a habit that handicaps, but this cannot be assumed for all habits. We would agree with Moffat and Wright that the physiologic effects are determined in part by several variables. Such are: the method and frequency of using tobacco, the relation to eating, the emotional state and the general vigor of the devotee, fatigue, existing disease, etc.

We deplore excessive smoking, that is, continuously near the limit of tolerance. Sooner or later this over-indulgence is prone to exact a heavy price. We deplore the common habit of smoking one after the other, cigarette, cigar or pipe, at times when there is not any great desire for it, and merely because it is at hand.

We deplore the almost universal adoption of the cigarette habit by the young, with its associated inhaling. Inhaling increases the area of absorption, and the lungs pass the poisons immediately to the left heart, the coronary arteries and the general circulation. That many of the experimenters remark on the more pronounced reactions of all kinds observed after cigarette inhaling, and their greater promptness of onset, must give us thought about this exceedingly prevalent habit. The tremendous increase in the use of the cigarette is such a recent development that we must wait many years before we can assess the ultimate effects of long years of inhaling. Especially important for us is the fact that the cigarette made from American tobacco, even though it is blended with a small percentage of Turkish tobacco, yields a smoke that is high in nicotine.

In regard to the numerous dissertations on the tobacco habit, Fisher and Fish have aptly said "The poetic effusions of the lovers of the weed are no safer guide than the exaggerated and intemperate pronouncements of people who have idiosyncrasies against tobacco and simply hate it." With this feeling, in summing up the tobacco habit, I have endeavored to

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avoid taking sides and to present in brief form our present knowledge of tobacco effects, with checks against their under or over interpretation.

With so many known possible harmful effects, it might be asked, why should anyone indulge in it? Yet we find that more than half the adults of our country are users of tobacco. They include many intellectuals, many of great attainments, many of the successful in every kind of occupation. A considerable number of those who have reached advanced age have smoked most of their lives. It would seem therefore unthinkable that the tobacco habit is universally harmful.

May it not be that tobacco is welcomed because it is so mild a narcotic, and yet relaxes and rests the mentally and physically tired, quiets the nervous, and gives relief from the tense and repressed conditions in which we live; or in some cases because it is company in loneliness; or because it creates peace and contentment, as after the evening meal or beside the camp fire after the night has fallen? Moreover, in creative work, may not the higher flights of imagination be promoted by the restfulness and reflective attitude that are contributed to by the rhythmic puffing and the curling smoke? Perhaps many of us need just this mild degree of narcosis, when it can be obtained in such an agreeable way. Would that we might always confine it to its beneficial effects. In any event smoking is a pleasurable social habit that, unlike alcohol, does not threaten to wreck the party or to

render its devotee temporarily brainless, helpless or dangerous.

Dr. Harlow Brooks' reference to it as "my kindly friend, tobacco," inspires me to conclude with the following pharmacologic doggerel:

MY KINDLY FRIEND, TOBACCO

It may make me cough, I will admit,
It may hurt my stomach a little bit,
It may narcotize my ready wit,
But when I'm tired, it makes me fit.

It causes headache, pollutes the air,
It makes me lose my athletic flair,
It shrinks my arteries and bids me: Beware!
But it eases my tensions, my wear and tear.

It makes me restless until I get it,
It spoils my wind and pep, and yet it
Adds to my pleasure in living, so let it,
I have smoked for years, may I not regret it!

My kindly friend, tobacco.

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Certain Recent Trends and Developments in Child Nutrition



P. C. JEANS
Iowa City, Iowa

The diet of the American people is changing rather rapidly. The public has become nutrition-conscious, partly because of educational campaigns conducted by various organizations, but especially because of food advertising campaigns. The present tendency toward re-inforcement of foods with vitamins and minerals and the often extravagant advertising claims made for these products make informed judgment on the part of the physician increasingly necessary. Yet the rapid development of the science of nutrition and the overwhelming number of publications in this field yearly, make a thorough knowledge of the present status of this important subject all but impossible to the busy clinician. The importance of nutrition must not be underestimated. Mere survival of an individual or a race does not mean nutrition is adequate. McCarrison's study of the tribes of India, from the superb physical specimens of the Sikhs in the north to the less physically fortunate people of the South, heir to a host of ills, shows the effect of diet upon physique of a race. Orr's study of two African tribes living in the same valley but with utterly different dietary habits shows also the direct effect of diet upon physique. One tribe living chiefly upon milk and meat, with some green vegetables averaged five inches taller and suffered much less from disease than the other tribe, which was wholly vegetarian. The increased stature of American-bred Orientals compared with their parents shows that change of food may have immediate effect. Yet the American diet at present is far from satisfactory, as is evidenced by the widespread prevalence of dental caries, a condition dependent upon a faulty diet.

Some ten years ago it was noticed that certain of the patients in our children's hospital showed a complete arrest of tooth decay, together with a hardening of the teeth, which previously had been soft. These phenomena were observed in children whose diets had been closely regulated—diabetic and celiac

children. The diets used for the two groups differed markedly in amounts of sugar and fat. Both, however, were rich in minerals and vitamins and fairly high in protein—in all instances the diets were "complete," that is, they contained all of the known nutritional essentials in liberal amounts.

Since these earlier observations, arrest of dental decay has been regularly observed, whenever a child has actually eaten a complete diet and his daily regimen is such that he can utilize the ingested food; therefore we are confident that dental caries is dependent fundamentally upon faulty diet. Oral cleanliness is desirable, but has been shown repeatedly to be unessential in the maintenance of sound teeth, if the diet is satisfactory. It is our belief that dental decay is not dependent upon a single specific factor, but probably upon several. A diet therefore should not be designed specifically to prevent dental decay, but the children should be fed a diet complete in every essential, which, because of its adequacy would not only accomplish our aims in regard to dental health but would also satisfy all of the many nutritional requirements.

The prevalence of dental caries among American children is widespread. If one accepts the premise that tooth decay depends fundamentally upon an incomplete and faulty diet, it becomes obvious that the average American diet is defective. This is not a new observation. The average American diet is built around bread, meat and potato, excellent foods in themselves but deficient in certain essentials, notably calcium and some of the vitamins. It would seem better to use as the basis of a diet the so-called "protective foods"—milk, butter and eggs, fruits and green vegetables. These foods supply the vitamin and mineral factors so likely to be deficient in our present diets.

Milk has been the cause of considerable controversy among physicians and nutritionists. It is possible to maintain good nutrition without the use of milk in the diet, but in order to do so satisfactorily, special knowledge of nutrition is necessary. Milk contains nutritional essentials more readily obtained from this source than from any other natural food. Milk and its by-product, cheese, are practically the only rich sources of calcium in the American dietary. Unfortunately the average child is not very efficient in utilizing calcium, therefore the amount fed must be three to six times the amount necessary in order to insure utilization. The average milkless diet for a whole day does not contain sufficient calcium for maintenance, certainly not enough to permit good

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growth. One quart of milk contains four to six times the amount of calcium contained in all the remainder of the diet. Children differ in their ability to utilize calcium from even this rich source. Metabolic studies show that from three-fourths to one quart of milk daily is required by the average child in order to keep the growing bones well calcified. When the milk intake is less than these amounts, the rate of growth may not be disturbed but the chances are great that the bones and teeth will not be calcified to the optimum extent. In the average child, a pint of milk daily permits calcium retentions below the minimal level needed to maintain the normal composition of growing bone.

Many physicians feel that the ingestion of a quart of milk daily will rob the child of his appetite for other foods. In the case of those children whose appetite for solid food is poor, but who drink milk readily, it has not been established that the poor appetite is dependent upon the ingestion of milk. Except for specific reasons in individual cases, it would seem preferable to maintain the standard for the growing child at one quart of milk daily.

For the child who is allergic to milk, we encounter the question of utility and availability of the various calcium salts. We have found, from balance studies of children, that some of the salts which have been recommended are poorly utilized. Particularly is this true of calcium salts containing no phosphorus, for in small children, the ingestion of these salts may so disturb the calcium-phosphorus balance as to result in loss of these minerals from the body, rather than an increase. The best utilized salts are the calcium phosphates. The retentions of calcium and phosphorus when di- or tri-calcium phosphate is fed are comparable to those from milk. Such salts as calcium lactate or gluconate may serve useful therapeutic purposes at times, but when the object is better bone and tooth development, these salts are not suitable. When calcium salts are given as a substitute for milk, the quantity ingested must be equivalent to the day's requirement of milk.

Vitamin preparations are extensively advertised, particularly preparations containing the vitamin B complex. The question arises as to the general need for such preparations and as to the prevalence of vitamin B deficiency. (Vitamin B complex will be included in the term "vitamin B" in the following discussion). We have no adequate measure of moderate degrees of vitamin B deficiency, therefore its prevalence is difficult to determine. It is quite thinkable that a considerable number of people may be ingesting a diet deficient in vitamin B. Animal experimentation has shown that loss of appetite is a constant factor in vitamin B deficiency. Vitamin B treatment of poor appetite in children, however, has given discouraging results, for in a high proportion of cases poor appetite in a child is dependent upon psychic, rather than dietary factors. It is also known that vitamin B deficiency causes atonic changes in the intestinal tract which may lead to constipation. Notwithstanding this fact, the administration of vitamin B rarely relieves constipation. In this connection it must be pointed out that wheat germ preparations and living yeast have laxative effects which are entirely independent of the vitamin B content; therefore, relief of constipation by wheat germ prepara-

tions or living yeast is not evidence that the constipation was caused by vitamin B deficiency, despite many advertising inferences to the contrary.

Even though a moderate degree of vitamin B deficiency may be common, it does not follow that special vitamin B concentrates are needed for every day use by the normal individual when proper thought is given to the diet. In so far as this contention can be demonstrated by the usual clinical means, it has been shown in groups of infants and children we have had under special nutritional observation. These individuals have grown at a rate considerably exceeding the average, have had excellent appetites and robust health, and have been lacking in all of the symptoms which are attributed to vitamin B deficiency; yet they received only a good diet with no special vitamin B preparation.

Before the depression, scurvy, as a recognized disease, had almost disappeared in this country. Lately, clinical scurvy is again being seen. One can only guess at the amount of moderate and unrecognized degrees of vitamin C deficiency. Goethlin, by means of a tourniquet capillary-permeability test found moderate vitamin C deficiency relatively common among school children of Sweden during the winter season. Dalldorf, using a modification of this same test, has similarly found a surprising prevalence of vitamin C deficiency in New York. Obviously, the average American dietary is still lacking in sufficient of the protective foods; on the other hand it seems equally obvious that in considering the requirements of a normal diet, the inclusion of such recommended quantities of orange juice as a quart a day seems ridiculous. Similarly, pure ascorbic acid is of invaluable therapeutic aid, but has no place in the routine diet.

In searching for a clinical measure of moderate vitamin A deficiency, it occurred to us that night blindness might serve such a purpose. The ability to see in dim light depends upon the visual purple of the retina. Visual purple is bleached on exposure of the eye to light and regenerates in darkness. In vitamin A deficiency regeneration is markedly slowed or lacking, resulting in night-blindness. Sub-clinical vitamin A deficiency, though not resulting in night-blindness, has been shown to result in measurable slowing of the time required for dark-adaptation.

By means of a photometer we have determined the ability to adapt to the dark after exposure to a bright light. We believe we have established the validity of this test as a measure of vitamin A deficiency. In those with abnormal dark adaptation the normal

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state can be restored by administration of vitamin A. The test detects quite moderate degrees of vitamin A deficiency and has a proved accuracy of 95%.

In the application of our dark adaptation test to groups of school children in the state of Iowa we have found an abnormal response and therefore vitamin A deficiency as follows: rural children 26%; village children 53%; city children at a high economic level 56%; city children at a middle level 63%; city children at a low economic level 79%. These findings indicate a much wider prevalence of vitamin A deficiency than is generally believed to exist. From our findings, we would not infer that vitamin A concentrates are indicated routinely in the every day feeding of children. A good diet supplies an amount of vitamin A sufficient to effect a prompt cure of mild degrees of deficiency, and ordinarily the use of a good diet is the better method of obtaining this vitamin.

Of recent years many attempts have been made to consider vitamin A as a specific against upper respiratory infection. These attempts are based upon the fact that in vitamin A deficiency, changes in the epithelium of the nose and throat occur which make these areas more susceptible to invasion by bacteria. Vitamin A deficiency is thus a predisposing cause of upper respiratory infection and sinus disease. However, these infections also occur from other causes than vitamin A deficiency. Adequate nutrition does not mean immunity to specific bacterial invasion, although adequate nutrition certainly means increased resistance to disease. It is desirable to recognize the fact that adequate vitamin A ingestion tends to keep the respiratory mucosa normal, but even a normal

mucosa may be invaded. We should therefore not deprecate vitamin A because it fails in instances where success should not have been expected.

Both vitamin A and carotene (its precursor, or pro-vitamin) are very soluble in mineral oil. Animal experiments at Iowa and elsewhere have shown that the ingestion of mineral oil results in loss of vitamin A through the feces. Carotene, ingested with mineral oil, is almost wholly lost to the body. If the intake of vitamin A is only sufficient to meet the minimal requirements for growth of the animals, the addition of mineral oil in amounts proportionate to the usual human dose causes the animals to die with signs and symptoms of vitamin A deficiency. Recently a child with loss of visual acuity in the dark gave a history of taking both cod liver oil and mineral oil daily. Both oils were taken at the same time. When the mineral oil was discontinued the dark vision improved promptly. Several other children have been studied whose vitamin A deficiency followed the ingestion of mineral oil. As carotene is removed from the intestinal tract by mineral oil to an even greater extent than is vitamin A, it seems entirely possible that the habitual ingestion of mineral oil may be a contributing factor in vitamin A deficiency in the human.

From the small amount of vitamin D in the food of inland peoples, one would infer that nature intended that we obtain most of this vitamin through the medium of sunshine. The exigencies of modern life make this source less and less dependable, however; thus, it has become common practice to include some good source of vitamin D in the diet, especially at the age when the clinical effects of a deficiency are

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most promptly manifest. In infancy such a practice serves to prevent rickets, while in the older child it serves as an additional safeguard in meeting an unknown requirement with a sparse content in the food.

The most commonly used sources of vitamin D are the fish liver oils. These have been supplemented by the use of irradiation; either the body itself may be irradiated, or the food, or what is probably the active component in either case, irradiation of ergosterol or cholesterol which is then incorporated into a solvent oil and administered. Very recently, effective irradiation of ergosterol by gamma rays has been accomplished.

The foods fortified by vitamin D include a long list—bread, cereals, sieved vegetables—even to sausage and ice cream. By far the most important of the vitamin D fortified foods, however, is milk. So far, vitamin D has been added to milk by irradiation of fresh or evaporated milk; by the addition of fish oil concentrates and activated ergosterol, and by feeding irradiated yeast to the cow. The amounts of D so added vary from 135 to 400 USP (50-150 Steenbock) units to the quart of fresh or reconstituted milk.

The addition of vitamin D to milk has some definite advantages. It provides a certain and automatic method of administration of the vitamin and it is ingested along with the minerals whose absorption it aids. The great question to be solved is what unitage is desirable. The need of vitamin D is dependent in large measure upon the rate of growth. A unitage of vitamin D per quart of milk that would be ample for the older child would be insufficient for the rapidly growing infant. Controlled studies in several hospitals indicate that as little as 135 USP units of D per quart will probably prevent rickets in the majority of infants, but is insufficient to provide for the best growth and development. Infants given this milk receive from 60-135 USP units of D daily; their growth is slow—barely average, and the quantities of calcium and phosphorus retained are distinctly lower than the amounts retained by babies fed the same quantities of milk, but 350 USP units of D daily.

The question of malnutrition among children has received more attention in the past few years. In a study of body build and diet of children, it has been found that parents of slender children try to increase the children's weight by giving extra cream and butter, whereas these children often have a poor fat tolerance.

Last fall five underweight children were studied at Iowa City. Three diets were used; the first, rich in fat, the second, containing neither fat nor starch, but made up of protein, dextrose, vitamins and minerals—a celiac diet. The third diet, a control, was the "house diet" of the institution. All diets contained ample protein, minerals and vitamins. The children were given the three diets in turn. Without exception the best weight gains were made with the protein-dextrose diets; the poorest with the diets high in fat. That the weight gains with the celiac diet were not water alone was shown by the high retentions of nitrogen and minerals.

These findings, together with other studies in chronic malnutrition have led to the hypothesis that malnutrition always leads to functional disability of the gastro-intestinal tract and a decreased ability to digest and absorb fats and starches. The ability to

digest protein seems unimpaired. True celiac disease is the final stage of this syndrome. Therefore, even in cases of moderate malnutrition it seems advisable to decrease the quantity of fats and starches fed, and to use protein and dextrose as the chief sources of energy. Now that dextrose may be obtained at 5-7c per lb., such a diet is little, if any, greater in cost than any other.

In summary, it has been stated that survival is not a sufficient criterion of the adequacy of a diet and that the average American diet is defective. The administration of mineral and vitamin concentrates (except vitamin D) is not the procedure of choice in our endeavor to make the diet complete. Evidence exists that not all nutritional essentials have been identified. These unknown essentials are much more likely to be contained in a diet of common natural foods than in a diet in which concentrates have an important place. It should be recognized also that a diet which is nutritionally complete has beneficial effects which are not always subject to recognition or measurement in an individual and of which the individual will be wholly unaware. These effects may be abundant health and vigor and a longer life of usefulness.

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Syphilis In Regard To Some Phases Of Immunity and Treatment* **



H. N. COLE, M.D.
Cleveland, Ohio

Is there such a thing as an immunity to syphilis? This may indeed be difficult to prove, but certainly immunity enters into the problem of the course of a syphilis. Today we are seeing many more reinfections in syphilis than was formerly true. This may be, in part, bound up with the problem of immunity, and, in part, due to modern methods of treatment. True reinfections (1) are probably comparatively rare. Most of them are more likely to be examples of mucocutaneous relapses—which are sometimes spoken of as a *chancere redux*; i. e., the result of poor treatment. Moreover, it is possible for a person, while he still has his syphilis, to have another syphilis superimposed on it, a superinfection. To be sure, this is rare, but it has been produced experimentally in rabbits and have also been carried out on certain humans by Hashimoto. By superinfection one would understand the superimposing of an actually new strain of syphilitic infection on an old syphilis. The best example of this that is seen in medicine is that of the congenital syphilitic who already has an attenuated syphilis, but who occasionally acquires a new syphilis on top of the old one.

It probably is true that certain immune bodies are built up in the system after the infection, and some physicians in the past have felt that these immune powers of the system should be encouraged, with the idea that perhaps they would be able to cope with the disease without other therapy. Caesar Boeck, many years ago, went on this theory in treating his patients at the Oslo Clinic. His successor, Professor Bruusgaard (2), has recently made a careful

survey of this material covering the period 1891-1910. These patients had been treated expectantly with tonics, rarely with potassium iodide, never with any specific therapy otherwise. What were the results achieved?

In a period three to forty years after infection, 309 of these patients had been studied, and also 164 who had died, a total of 473. Strange as it may seem, 131, approximately 28 per cent, were symptom free and had negative serology, and 70, 14 per cent, were symptom free and had positive Wassermann reactions. Vascular disease was present in 67, or 14 per cent; general paresis in only 13, or 3 per cent, and tabes in 6, or 1 per cent. Thus in this group of 473 cases that they could find out of a total of some 2,100, approximately 42 per cent were symptom free and had nothing more than a positive Wassermann test, even though they had never had specific treatment for their syphilis. The authors found that circulatory and heart affections played a great part in the cause of death in the patient. In comparison to these, involvement of the central nervous system took a back seat. Tertiary manifestations in the skin, mucous membranes and bones did not play any great role. Thus apparently in not a small per cent of syphilized patients the human body can build up sufficient immune powers to hold the infection in check or even to overcome it entirely; corroborating the views of Boeck.

Somewhat along the same line of thought, Guldberg (3) has recently reviewed the pathologic material in Professor Harbitz' Oslo Clinic from 1896 to 1930 to see if there is any difference in the type of syphilis since the Salvarsan era. Of the 8,200 autopsies, 481, or 6 per cent, showed evidence of syphilis, and it was the cause of death in 349 of these. Over 58 per cent of the syphilitic material showed evidence of vascular involvement, and it was the cause of death in 41 per cent of these vascular cases, most of the deaths coming in the years 46 to 55. There was no great increase in the amount of vascular syphilis nor of the central nervous system syphilis since the Salvarsan era. Guldberg did find in a group of 109 cases, small it is true, where the syphilis killed the patient, that those patients lived longer who had had no treatment. The next group that lived longest comprised those patients receiving mercury and potassium iodide alone, while in those patients receiving insufficient arsphenamine, i. e., under 6 gm., as the author arbitrarily puts it, death came in a mean of 18 years after the infection. Where the patients had received sufficient arsphenamine, over 6 gm., the mean death period was 21 years. The author felt that possibly the rapid effects of modern therapy cleared up the evident lesions of early syphilis so rapidly that there was no opportunity for the system to build up resistance to the disease. Hence, if the syphilis recurred the patients were in no condition to combat it with their acquired immune powers.

Sezary (4), in a recent article on the pathogenesis

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**Read before the Fifty-first Annual Meeting of the Mid-South Post Graduate Medical Assembly, held in Memphis, Tenn.

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of exotic syphilis, reached somewhat the same conclusions. He found that the syphilis of the French Colonies and of numerous foreign uncivilized countries presents a different aspect from that of France. The syphilis is florid in type, with extensive lesions of the skin, and after a latent period there appears extensive seriginous, gummatous lesions, though with little or no involvement of the viscera or of the central nervous system. He finds general paralysis to be a rare disease among such indigenous people. Sezary thinks that as syphilis becomes an old disease in a country, for example, as it has in France, it is less and less rampant in skin manifestations, and more frequently attacks the central nervous system. He wonders if the relative immunity of native people against nerve syphilis is not an evidence of the relative epoch of their treponema infection.

The German Association for the Advancement of Science and the Russian Government have attempted (5) to answer this question by a study of syphilis in the virgin field of Burjat Mongolia. In this locality syphilis is almost endemic. Cardiovascular syphilis was as frequent proportionately as in Berlin. Their studies did not support the fear that modern treatment favors the development of tabes, of paresis and of aortitis. In fact, they were forced to conclude that modern therapeutic methods against the spread of syphilis should be continued.

Moreover, O'Leary (6), in a recent report from the syphilis clinic at Rochester, where they studied 500 proven and unselected cases of neurosyphilis, came to the conclusion that in 85 per cent of these cases they were unable to find that arsphenamine predisposes to or induces the development of neurosyphilis. On the contrary, the condition of many of the neurosyphilitics was found to be due to inadequate treatment in the early stages of the disease.

The gist of these reports seems to be that it must be recognized that there are such things as immune bodies present in the body in connection with an infection with syphilis. They do play some role. How long they persist is difficult to say. It may well be that a case of syphilis, even without specific therapy, will be taken care of by the immune bodies of the system; perhaps the disease submerged entirely. We have all occasionally seen such cases and been at a loss to explain their present condition. However, one must not forget that there is still another factor that is even more important, i. e., the public health factor. It is a question if today public health regulations would allow a case of syphilis to go untreated on the theory that sooner or later the human body, through its built up immunity, would sooner or later take care of the infection. In the meantime there would be too many opportunities of others being infected, or of the individual actually transferring the disease to the next generation. Moreover, we must realize the great role that syphilis plays in vascular damage to the body, and probably Guldberg's cases, where arsphenamine had been used, if it has been used with modern methods, would have resulted differently. Thus, Moore (7) has made the statement that he cannot recall having seen a patient who had received as many as 24 injections of arsphenamine with interim heavy metal for an early syphilis who subsequently developed evidence of cardiovascular syphilis. Moreover, in a paper shortly to be published, comprising a large number

of cases of syphilitic aortitis (8), studied by the Co-operative Clinical Group of the University of Pennsylvania, Johns Hopkins University, Mayo Clinic and the Western Reserve University, in cooperation with the United States Public Health Service, 62 per cent of the patients had never received any treatment or only a little heavy metal. Is it treatment or lack of treatment that will most benefit the syphilitic, that will conserve his acquired immunity and that will prevent relapses of his disease?

Possibly a survey of relapse material (9) in relation to treatment and immunity will give a better idea of what is meant by adequate, continuous treatment and what can be expected by its use. Stokes, Moore, Wile, O'Leary, Cole and Parran report a Co-operative Clinical Study made from the syphilis clinics of the University of Pennsylvania, Johns Hopkins University, University of Michigan, Mayo Clinic and Western Reserve University, in connection with the United States Public Health Service on 5,800 cases of early syphilis with mucocutaneous lesions. Six per cent of these, 360, showed mucocutaneous relapses. It was noted that there were more relapses in seronegative syphilis than in seropositive cases of syphilis, i. e., primary syphilis, or in secondary syphilis. In other words, immune bodies seem to be built up in the system of the syphilitic as advance is made to the secondary stage of the disease.

One of the principal forms of relapse in syphilis is the so-called Wassermann relapse (10), where the test changes from negative to positive. In the Group studies it was found that all forms of relapse and progression in syphilis were two to five times as frequent among those patients who were not rendered Wassermann negative as in those who were. Relapses, as a rule, came early in the course of a syphilis. In the Group material 25 per cent of them came in the first six months after infection, and by the end of the second year, 85 per cent of the relapses to occur had intervened. The average time of relapse was 18 months after infection and it, as a rule, occurred 9 months after the last treatment. In other words, a physician treating an early case of syphilis, should follow the patient carefully during the first two years of the disease, as this is the critical period for relapse to appear.

Relapse also seemed to have definite relationship to the amount of treatment that the patient had received, for of those patients receiving 20 or more arsenical treatments with interim heavy metal, only 12 per cent of them had an infectious relapse, while, on the

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other hand, 64 per cent of the cases receiving but one to four injections of an arsenical with interim heavy metal had relapsed, while if even 5 to 9 were given, but one-seventh as many patients relapsed. And in connection with syphilis of the central nervous system, three times as many neurorecurrences developed if less than 20 injections of an arsenical with interim heavy metal were employed as where more than 20 were employed. Indeed, from a study of relapses seen in the Group material, it was possible to draw the deduction that adequate treatment of at least 20 injections of an arsenical and interim heavy metal in a case of early syphilis gave best promise of the patient's immune powers being supported and not broken down.

Relapse also seemed to have a close connection to type of therapy employed. Of course, Fournier was a great believer in the use of intermittent treatment. His patients received mercury for a time, rest periods for a time, potassium iodide, rest period, mercury, etc., the theory being that it was necessary for patients under treatment with a strong remedy like mercury to have occasional rest periods. Due to his influence, this mode of treating syphilis has been almost universally used for many years. Almkvist (11), however, in Europe and Keidel and Moore (12) have advocated the use of so-called continuous therapy for the early syphilitic, and it is now used quite extensively in some clinics in this country. It is used on the theory that continuous, alternating courses of arsenicals and heavy metals will give the treponema pallida no opportunity to multiply, no chance for them to become more firmly installed in the victim's system. In contrast to this type of therapy, in the past we

have used the intermittent treatment of Fournier or the so-called intensive type of treatment, which consists of short intensive arsenical treatments, 3 or 4 in 3 to 6 or 8 days, alternating with other heavy metal and purposeful rest periods, and also there is what is known as the irregular type of treatment, where the patient takes the treatment into his own hands and comes in when he feels like it. Actually, in practice, in the survey made by the five clinics, intensive and intermittent treatment were found to be inefficient and productive of relapses (9). In fact only 13 per cent of the Group material relapses occurred where continuous treatment was used; 21 per cent where intermittent treatment was employed; 41 per cent with intensive treatment; and 45 per cent with irregular treatment. It was found that intermittent treatment gave rise to four times as many delayed Wassermann reversals to negative as did continuous treatment, and irregular treatment 9 times as many. Where continuous treatment with arsenicals and interim heavy metals in courses were used, 82 per cent of negative Wassermann reactions by the end of the first year were found, while with intermittent treatment this percentage dropped to 37 per cent, and with irregular treatment to 5 per cent. The end results after two years of observation of patients in the Cooperative Clinical Group where continuous treatment had been employed showed 80 per cent satisfactory or curative results, as against 65 per cent with the old fashioned intermittent treatment with purposeful rest periods, and 33 per cent with irregular treatment and 23 per cent with intensive therapy.

It is true that throughout this discussion on re-

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lapse and immunity that the state of the Wassermann reaction, positive or negative, has been repeatedly mentioned. Moreover, for purposes of comparison the regular taking of a Wassermann, as Moore has shown, gives the physician a good estimate of the patient's response to antisyphilitic therapy. Nevertheless, there is danger in the physician or the patient falling into the error of treating the syphilis according to Wassermann response rather than according to schedule. Even if the Wassermann test does become negative, follow up the schedule of treatment until enough therapy, in the light of experience, has been employed. With the Group studies this seems to be for early syphilis at least 20 to 30 injections of an arsenical and interim heavy metal.

Finally, in answer to the Bruusgaard report of the benignity of Boeck's untreated syphilis material, the Cooperative Clinical Group (13) have been able to compare 907 cases of treated early syphilis with 145 cases of untreated early syphilis in Bruusgaard's report. It is found that clinical neurosyphilis was two to four times as frequent in the 3 to 10 and 10 to 20 year periods respectively in the untreated group as in the Cooperative Clinic Group material treated with modern methods. Moreover, the frequency of

skin and bone lesions in the untreated cases (Boeck's cases) was 17 and 26 times, respectively, as frequent as in the modernly treated material of the Cooperative Clinical Group. Effective treatment gave 96 per cent symptom free patients with a positive or negative blood test after 3 to 10 years, while no treatment, as reported by Bruusgaard, gave 61 per cent. While the relative benignity of many aspects of untreated syphilis must be granted, as far as the patient himself is concerned, public health aspects and posterity must also be seriously considered. We believe the Cooperative Clinical Group studies thoroughly justify adequate and systematic continuous treatment with arsenicals and heavy metals. In the light of present knowledge and of the Cooperative Clinical Group studies, immunity of the patient with an early syphilis will be best conserved and danger of relapses will be best prevented by the use of a schema of treatment somewhat on the lines of the one here proposed (Appendix 1). We realize that it is not possible to follow hard and fast rules in treating any case of syphilis; there are so many contingencies that are liable to arise; nevertheless, the appended outline can in general indicate the ideas of the Cooperative Clinical Group as to the treatment suitable for the early case of syphilis.

COURSE OF TREATMENT FOR EARLY SYPHILIS

DRUG	DOSAGE	NUMBER OF COURSES		
		Seronegative Syphilis	Seropositive Primary	Syphilis Secondary
Arsphenamine or Neoarsphenamine	10 injections, 0.2 to 0.4 g. 1st, 3rd, and 7th days and then weekly. With succeeding courses the injections are given weekly only. Corresponding dose.	3	4 at least	4
Bismuth	0.1 to 0.2 g. K-Bi-Tartrate or Na. Ka. Bi. Tartrate Suspension weekly, 10 injections or 10 injections of bismuth salicylate suspension 0.1 to 0.2 g. or other Bi. suspensions equivalent to .08 to 0.1 g. metallic Bi.	3	6	6
or Mercury	Mercury salicylate between 3rd and 4th courses of Arsephenamine.	1	1	1
Potassium Iodide	Internally along with Bismuth or Mercury.			

Blood Wassermann at beginning of each course or arsenicals and to be repeated in 7 days. Lumbar puncture after diagnosis of syphilis is made at end of first year. After end of treatment, provided Wassermann test has been negative 1 year, blood Wassermann every month for year. At end of such year, 0.6 g. Neoarsphenamine and a blood Wassermann one to five days afterward. Provocative Wassermann.

Patient with complete negative serological and physical examination is then put on observation. Advise Wassermann thereafter every six months along with physical examination every year.

4. g. Mercury inunction, 70 in number, may be substituted between 3rd and 4th Arsphenamine courses for either Mercury or Bismuth.

Mercury or Bismuth treatment should be instituted at the same time as the last Arsphenamine injection in a course of Arsphenamine treatment so that there will be overlapping of the two types of treatment. Moreover, the beginning Arsphenamine injection of the next course of treatment should be given at the time of the last Mercury or Bismuth treatment in the course of the respective Mercury or Bismuth treatment. Along with the first course of arsenical treatment a bismuth injection should be given once a week for 4 weeks.

It is understood that this is simply a chart to be used in the ordinary case of syphilis. There are no two cases of syphilis that will react the same way and it may be necessary to make changes as one follows

the individual case. We should adhere to it as nearly as possible.

Appendix 1.

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Laryngectomy and the Reconstruction of the Upper Air Passages*



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TRAUMA. Injuries of the upper air passages and larynx lead to difficulty in breathing and alternation or loss of voice. A common cause is high tracheotomy or cricotomy, which on account of proximity to the glottic area results in an irreparable damage to the vocal cords and often requires very prolonged and difficult treatment in order to restore the air way. Intubation, especially when long continued and associated with ulceration, is followed by obstructive narrowing of the air passages, serious damage to the vocal apparatus, and at times necrosis of the laryngofissure less frequently permanently impairs the voice or breathing capacity, but contusion, blows or compression of the larynx, as may occur accidentally or during a convulsive seizure, may be associated with fracture of cartilages and severe obstructive phenomena. During a convulsive seizure the patient should not be held by the arm across the neck. This has resulted in fracture of the larynx and the necessity for tracheotomy. Cut throat and gunshot wounds, of course, may also cause serious damage. We recall one patient who had both the larynx and upper trachea with an associated section of esophagus carried away by the explosion of a rifle grenade. The lower end of the trachea and esophagus retracted behind the sternum. The esophagus was later satisfactorily united, but it was found difficult to reconstruct a breathing tube of sufficient size through the laryngeal area. Later the patient expelled through his mouth several portions of necrotic bone from the cervical vertebrae. In the prevention of these injuries the especial warning which Dr. Chevalier Jackson has often sounded should be repeated against high tracheotomy. This operation should be supplanted by an op-

ening below the second tracheal ring. From the low opening decanulization is rarely difficult, and the loss of voice and obstruction to breathing, which so often follows a high operation, is rare.

BURNS OR SCALDS result from the inhalation of flame, steam, hot liquids or caustic chemicals, such as ammonia. Rarely the burn results from a momentary application of high voltage current or prolonged irradiation. In the case of a telephone line man, whose neck came in contact with a wire carrying 2200 volts, a large area of skin, larynx and trachea became necrotic and sloughed away, leaving a great opening in the upper air passages. This was closed, as shown in the photograph, by a lining formed by a flap of skin from the neck, covered on the outer side by a full thickness skin graft. In two cases that have come to our notice, permanent loss of voice had followed the protracted x-ray treatment of toxic goitre.

The treatment of these various conditions often requires months or years. Early a low tracheostomy is as a rule desirable, even though there may be an upper tracheal opening. Gradual dilatation of the strictured area by the bougies or sounds or by incision through the laryngoscope are of limited value. The method as long used by Dr. Jackson is to form a deep open gutter through the strictured area by the continued wearing of an implanted rubber tube or other device. The dilating rubber tube may be introduced by a laryngofissure, buried and held in place by a wire transfixing the larynx, as suggested by Schmiegelow. Instead of a rubber tube a buried stent of dental modeling compound may be employed or the stenosing scar tissue may be partially or completely excised and the area lined by a buried skin graft and then sutured over an appropriately formed stent of dental modeling compound, after the plan of an Esser inlay graft. Certain of the plastic enlargement of the lumen of the larynx or trachea is necessary. This we have accomplished by lining a flap of adjacent skin with Thiersch graft and inserting in the graft narrow strips of curved cartilage, removed by an incision behind the concha of the patient's ear. The graft is left in place for about ten days, and then raised with its epithelial lining and so transplanted to occupy the defect in the air passage. Where the tracheal or laryngeal opening has persisted for many months or years the cartilaginous edges may have collapsed or curved inward, requiring wide-shaped resections of the overlying and lateral scar tissues, so the tracheal margins may be so everted as to prevent secondary collapse of the lumen. Rarely the lumen is so occluded that a transverse resection and

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anastomosis of a part of the trachea or larynx is desirable. Even after several years a gap three centimeters in length may be overcome by such resection.

TUMORS. Obstruction of the upper air passage is most frequently the result of new growth. Benign tumors are rare, the most common being papillomata of the vocal folds which occur especially in male children. Rarer benign tumors include angiomas, angiofibromas, lymphomas, chondromas, osteomas, neurofibromas, aberrant thyroids, cysts and teratomas, and even more rarely, lipomas, adenomas, myomas and myxomas. The symptom of such new growths is usually a hoarse, husky or uncertain voice, showing alteration in timbre, at times diphonia, or double voice, and later dyspnea, cough, atelectasis, emphysema and asphyxia. Dysphagia is rare except as a very late symptom. Examining such a patient, the inspiratory dyspnea is often well shown by the indrawing of the soft tissues above the clavicle and sternum and of the epigastrium, as the patient inspires. The diagnosis is made by indirect mirror or direct laryngoscopy and in case of doubt a biopsy may be made of a portion of the growth removed by the Chevalier Jackson punch forceps. Treatment consists as a rule in removing the growth through the laryngoscope by suitable biting forceps either in one or several stages. Lymphomas which are especially susceptible may disappear under irradiation alone. Rarely are extirpations necessary, although in the child illustrated fibrolipoma had passed from the interior of the larynx through the cricothyroid membrane and had formed a tumor the size of a grape fruit in the front of the trachea and larynx. Such a tumor of course requires external excision for its removal and in this case a secondary excision of the growth within the larynx and further treatment to restore the lumen was required. The most common of all the tumors of the larynx is, of course, carcinoma. These are almost invariably squamous epitheliomas and constitute five per cent of all cancers involving the body, or eight per cent of all laryngeal tumors. Usually epithelioma begins about the center of one vocal cord. Eighty-eight per cent occur in men beyond middle life although occasionally cancer of the larynx is found between the ages of twenty and forty. A long-continued, preceding chronic irritation as from tobacco smoke, syphilis, papillomata or tuberculosis may favor the development of the disease.

The symptoms are first a painless hoarseness with a gruff low-pitched voice, and on examination a nodule, warty mass of ulcer is found usually about the junction of the middle and anterior third of one vocal cord. This constitutes the intrinsic or more favorable form of carcinoma of the larynx. The extrinsic cancer usually originates above the glottic areas and spreads earlier and more rapidly to the tributary lymphatics and to the lateral and posterior tissues of the neck. As primary intrinsic cancer of the larynx usually becomes extrinsic only in from one to three years, eighty per cent of these intrinsic growths are cured by early excision. The outlook is more serious if the anterior commissure, the anterior surfaces of the arytenoids, the anterior area of the aryepiglottic fold, and especially if the subglottic area has been involved. Extrinsic cancer of the larynx is much more serious and has a mortality of eighty to ninety per cent. The treatment of intrinsic cancer is remov-

al by laryngofissure if the growth is superficial, is limited to one vocal cord and has not involved the commissures or the lymphatics of the neck. The mortality of this operation is one per cent or less and over eighty per cent of the patients are cured. In Dr. Jackson's method the anterior larynx is accurately and vertically split in the mid-line to the mucosa which with the growth is delicately stripped off from the overlying cartilage enabling a more thorough resection of the affected cord and adjacent soft tissues. As a rule, the operation involves little disability and the patient usually recovers with but little impairment of the voice. Laryngectomy is indicated for all intrinsic cancers, where it is improbable that a laryngofissure will accomplish a complete removal of the malignant tissue. It carries a mortality of about three percent, fatalities being largely influenced by age and general condition of the patient and by attention to detail. Anesthesia is very satisfactorily accomplished by a very small dose (40 to 60 table) of avertin by enema, associated with free local infiltration and paravertebral nerve blocking by one per cent procain-epinephrin solution. The operation may be performed in one or more stages with or without a preliminary tracheotomy or skeletonization of the larynx. Various skin incisions have been employed for the removal of the larynx;—lateral or bilateral flaps, a superior or inferior vertical flap or by simple vertical or transverse incisions. For a better cosmetic result and to prevent leakage of pharyngeal fluids into the trachea it is desirable to use a separate incision for the tracheostomy. The larynx should be excised with the lymphatic tissue lying in front of the cricothyroid membrane. Usually we prefer to remove the larynx from above downward during the tracheostomy after the larynx has been removed, instead of the following the opposite conventional plan of procedure. The excision of the larynx is also much facilitated by early ligation and division of the superior thyroid vessels. The prelaryngeal muscles are left attached to the larynx to better insure that those lymphatics, early involved by the spread of the disease, are removed. After the excision of the larynx and the closure of the opening into the esophagus and hypopharynx, the upper end of the trachea is brought through an opening made by removing a circular button of skin and underlying fat just above the suprasternal notch. If possible, a partial or complete segment of the ring of the cricoid is left attached to the retained trachea to maintain an adequate skin opening. If this is done, no tracheotomy tube may be required after the operation or at any time afterward. The use of very fine (35 or 36 B and S gauge) annealed rustless steel wire is desirable for both buried and superficial sutures and ligatures. Adequate drainage is supplied by rubber tubes and the large wound area to a degree is obliterated by incorporating sterile rubber sponges in the postoperative dressing. A duodenal tube, introduced through the wound before the operation has

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been completed and finally brought out through the nose, enables the patient to be fed without the act of swallowing during the period that the hypopharyngeal wound is uniting. This feeding tube is removed in from eighteen to twenty-one days or after the pharynx has firmly united, as shown by the ability to swallow liquids alongside the tube without leakage and under fluroscopic observation. More recently in selected cases we have attempted an anastomotic form of laryngectomy, in which most of the larynx is excised by transverse saw cuts that include the malignant area. A segment of cricoid is brought up and sutured to the retained upper segment of larynx posteriorly, the anterior portion being left open for closure at a later stage. A low tracheotomy is an essential part of the operation. This type of operation enables the patient to exhale through the mouth and to speak in a loud whisper without other apparatus. It has the disadvantage that occasionally the patient has difficulty in accomplishing swallowing without leakage into the trachea.

For extrinsic cancer a very complete resection of the larynx with en bloc resection of adjacent infiltrated tissues and lymphatics is to be used, or if the process is an advanced one, irradiation may be substituted for operation. For irradiation x-ray exposures of carefully calculated saturative type is at present preferred. In using Coutard's technique, from four thousand to seven thousand roentgens are administered in from four to six weeks. Inflammation of the mucosa with the formation of a sort of false membrane indicates that a sufficient dosage has been obtained or the limit of tolerance reached. Secondary edema or chondritis may result from the irradiation and lead to suffocation necessitating tracheotomy. Therefore, the patient should remain under close observation, while the treatment is being given.

Speech after complete laryngectomy is accomplished by a pharyngeal whisper. The patient is expelling the small quantity of air that he accumulates in his pharynx makes low whispered sounds. More effective and much louder is the stomach or esophageal voice or belch which certain patients develop. This is produced by swallowing air and as it is evacuated through the mouth it is formed into words which may be understood at a distance of twenty-five to fifty feet. Patients thus accomplished may carry on a conversation in a large room without difficulty, and indeed, one of the magistrates of Philadelphia conducts his court daily with such gastric belching. From its simplicity and with advantage Dr. Jackson prefers such a natural method of voice production. A number of forms of artificial larynx are in use. As a rule, the air is carried from the opening in the neck by a rubber tube through the clothing to a tube which is held in the corner of the mouth while speaking. In the tube is inserted a small metal cylinder containing a vibrating strip of rubber. With this device patients may speak in a loud voice, although in a monotone. Other somewhat similar devices employ a vibrating metallic reed for producing the sound and the blast of air is, at times, supplied by a small bellows which the patient carries and compresses under his arm and elbow.

Heart Disease Complicated By Pregnancy



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"Maids must be wives and mothers to fulfill the entire and holiest end of woman's being." (Woman's Heart, Frances Anne Kemble).

The answer to the question "Will my heart disease interfere with possible motherhood?" when asked by a young woman or wife, entails not only a fine discrimination as to the seriousness of her heart lesion but also the question of the interference with her right as a woman. There is a great divergence of opinion as to the proper answer, and especially so between the opinions of the internist and the obstetrician. When the obstetrician is faced with the *Fiat accompli*, there is yet greater disagreement as to whether the pregnancy should be terminated immediately, or if not, what method of delivery should be selected.

Sir William Osler, in all the editions of his *Practice of Medicine*, states: "Women as a whole bear valve lesions better than men. Pregnancy and parturition are disturbing factors, but I think less serious than some writers would have us believe." Sir Thomas Lewis, speaking of valvular disease, says: "The adverse effects upon the heart, and the increased death rate consequent upon childbearing tend, perhaps, to be exaggerated, and for two reasons: first, heart failure will develop in many rheumatic heart cases during the usual childbearing period, whether children are borne or not, and secondly, many women attribute ill health to childbearing, when they have no good reason for doing so."

On the other hand, Joseph B. DeLee says: "My own experience has taught me to fear the complica-

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tion of heart disease with pregnancy, for even though one finally brings the patient through alive, the dangers that threaten at every step are very disquieting, and when accidents occur, they require the promptest and most skilful treatment." Mitral stenosis is generally considered the worst of the valvular diseases so far as pregnancy is concerned, especially when complicated by myodegeneration, which makes all cases very serious.

Because of this great diversity of opinion, in the early part of 1926 Dr. Fitzgerald of the obstetrical service of Cook County Hospital and I agreed that all pregnant patients presenting themselves to the prenatal clinic should be taken care of in a special section of the follow-up cardiac clinic, under the supervision of both of us, and furthermore that every cardiac case should be allowed to go through pregnancy and parturition without aid other than that necessary to preserve the life and health of mother and child. We soon realized that one of the causes of disagreement between the internist and the obstetrician was a lack of knowledge of the normal course of heart disease in women, whether or not childbearing was concerned, and that much that was feared by the obstetrician was but the natural course of the disease.

Chronic heart disease falls naturally into three great classes which occur at more or less definite age periods. During childhood and early adult life, the heart is exposed to injury by the acute infectious diseases, especially scarlet fever and acute articular rheumatism. Because rheumatic fever is by far the most common cause of this type, it is usually designated as rheumatic heart disease. The infectious diseases damage most severely and permanently the valves of the heart, so it is also called valvular heart disease. The muscle is involved to a greater or less degree, but usually makes a complete functional recovery. The pericardium is at times involved, and there may ensue the formation of pericardial adhesions.

In individuals who have acquired syphilis there occurs after a period of from five to twenty years (on the average fifteen years) what is usually called cardiovascular syphilis. The heart muscle is only very rarely involved by syphilis, the valves never, the primary lesion being that of an aortitis especially of the thoracic portion. As syphilis is usually acquired after the age of 20, the average onset of vascular syphilis is after 35, usually nearer 40.

The third class of heart disease is also really primarily a vascular disease, although in this type the heart may also be seriously affected. Arteriosclerotic heart disease is seldom seen before the age of 40, and is rarely well developed before 50 years of age.

3,159 births were analyzed as to the decades during which pregnancy usually occurs; in 1,000 consecutive births in Cook County Hospital from July to October, 1933

20.2% of births occurred in mothers 14 to 20 years of age;

57.1% in the third decade;

19.9% in the fourth decade;

2.8% occurred in mothers 40 years of age or over.

In 2-159 consecutive births in the Evanston General Hospital, at Evanston, Illinois, the clientele of which comes from the exclusive north shore suburbs of Chicago

1.85% occurred in the second decade;

52.13% in the third;

39.0% in the fourth, and

2.3% in the fifth decades.

It is evident that more than 95 per cent of all births occur in mothers under 40 years of age, in fact, practically all are before the age of 35. As syphilis causes sterility or early abortion in a large percentage of the untreated cases and arteriosclerosis occurs after 40, except in rare instances rheumatic heart disease is the only type which can occur during the child-bearing period. The comparatively rare congenital defects have been omitted from this consideration.

RHEUMATIC HEART DISEASE: Less than 1 per cent of the cases of benign endocarditis are the result of scarlet fever, the remainder being due to acute rheumatic fever. The causative factor in rheumatic fever is not definitely known, but appears to be, in all probability, some form of the streptococcus. It is generally presumed that the common point of entry of the infectious agent is by way of the tonsils, and as a result there is a widespread belief that removal of the tonsils will prevent rheumatic fever. This, however, does not rule out the possibility of the organism gaining entrance through the other lymphoid tissues of the nasopharynx or that the nasal sinuses, middle ear, or gastro-intestinal tract may not be portals of entry. Inquiry into the history often fails to reveal a story of a preceding rheumatic fever. This may be the result of the rather common failure of the patient or members of the family to remember serious illnesses or accidents. It has long been recognized that chorea is a rheumatic infection and often precedes the development of rheumatic valve lesions, and in other cases there may be only a history of tonsillitis. Of somewhat greater uncertainty is the occurrence of rheumatic valvular disease after "growing pains" and the ill-defined fevers of early childhood. There are undoubtedly cases of benign endocarditis in which the only evidence of infection is in the heart valves, in certain cases even fever is absent and the only evidence is a rapid pulse. Those cases without fever have been called silent endocarditis. (Sutton).

SEX: The sexes are about equally involved.

CLIMATE: Rheumatic heart disease is much more prevalent in the New England states and in the northern part of the United States than it is in the southern part of the country.

SOCIAL AND ECONOMIC STATUS: Are undoubtedly important factors. Rheumatic heart disease is several times as common among the overcrowded poor than among the well-to-do of any community.

AGE OF ONSET: The onset of rheumatic heart disease is rare during the first five years of life. Most the cases develop between the fifth and fifteenth years, the height being at the tenth year. Some cases occur later, but valve lesions rarely develop after 20 years of age.

PATHOLOGY OF RHEUMATIC ENDOCARDITIS:

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During the period of the acute rheumatic fever there is unquestionably always a pancarditis present. As a rule the myocardial and pericardial involvement clears up, leaving little or no trace. The chief effect of the rheumatic involvement of the heart is that of injury to the heart valves. The involvement of the valves is an endocarditis of the benign type. Along the line of closure of the valve cusps there occurs a thickening of the valve due to the development of tiny vegetations; these consist of dense fibrin with leukocytes, later becoming hyaline-like. Contrary to the rule in bacterial endocarditis, emboli do not break off from the vegetations of benign endocarditis. Besides the involvement of the valve leaflet, there is usually also a similar reaction in the mural endocardium and of the cordae tendoneae. With the subsidence of the acute rheumatic fever there may be complete healing of the valves so that there remain neither symptoms nor physical findings of a valve lesion. This complete healing is most likely to occur when the patient is kept at absolute bed rest for many months. But most commonly there is scarring of the endocardium resulting in a deformity of the valve. There is a tendency to recurrences of the infection, with increasing injury to the valves. Some cases may continue a downward course and after months or a few years terminate as a bacterial endocarditis. Others show no evidence of a continuous infection, as fever or leukocytosis, and yet after months it is suddenly realized that the valvular involvement has progressed. (Silent endocarditis, Sutton).

VALVULAR DEFORMITY: The inflammatory reaction of the edges of the valves causes thickening and irregularity, which is followed by the usual contraction of scar tissue. The irregularity and contraction of the valve edges prevent a complete closure of the valve orifice (valvular insufficiency). Either as a result of adhesion of the valve cusps or contraction of the scar tissue, or both, there is a gradually developing narrowing of the valvular orifice (stenosis). The usual healing effects are then a double lesion of the valve, that is, an insufficiency and stenosis of the valve. One of the important diagnostic problems is the determination of the degree of stenosis or insufficiency present.

THE VALVES INVOLVED: According to White, the mitral valve alone is involved in about 60 per cent of cases; the aortic valve alone in about 5 per cent; the mitral and aortic combined in about 33 per cent; while the tricuspid and pulmonary valves are involved in only rare cases.

More than 95 per cent of cases of rheumatic heart disease have a greater or less degree of mitral valve involvement. As the valvular involvement is both an insufficiency and stenosis, almost all diagnoses must include a combined mitral lesion, or as more commonly stated **MITRAL DISEASE**. Mitral disease, or, as more often loosely stated, mitral stenosis, then, is almost the only lesion ever present, and is therefore the most severe type of heart disease in pregnancy.

THE DIAGNOSIS OF RHEUMATIC VALVULAR DISEASE: During the acute attack of rheumatic fever, as is usual in all fevers, a systolic murmur is very often heard over the heart. This is not sufficient evidence of the development of a valve lesion, and the diagnosis must be reserved until more definite findings are present.

THE MECHANICAL EFFECT OF MITRAL DISEASE: (that is, combined with mitral insufficiency and stenosis): The stenosis interferes with the emptying of the left auricle, causing an increase of the pressure in the left auricle and in the pulmonary circuit. This leads to the distention of the auricle and auricular hypertrophy, congestion of the pulmonary vessels and dilation and hypertrophy of the right ventricle. The insufficiency of the mitral valve adds dilatation of the left ventricle. The inspection over the heart in mitral disease reveals an apex beat displaced to the left and often the auricular contraction can be seen in the second left intercostal space. Palpation reveals a presystolic thrill and a sharp shock from both the first tone at the apex and the second pulmonic tone. The percussion or x-ray outlines show increase of precordial area of dullness over the left ventricle, the left auricle and the right ventricle.

Auscultation over the apex reveals a systolic murmur which is best heard in the fourth interspace just to the left of the sternum. If not present it may be brought out by increasing the heart rate by the inhalation of amyl nitrate or by exercise. The second tone at the pulmonic area is accentuated. In advance stenosis due to the diastolic flow of blood from the auricle to the ventricle, there is also a mid-diastolic murmur simulating that of aortic insufficiency. The presence of a mid-diastolic murmur in mitral disease is always evidence of a high-grade stenosis.

Pure mitral insufficiency has a large full pulse, but as the degree of stenosis becomes greater the pulse becomes increasingly small and increased in rate.

The combination of aortic valvular disease and mitral disease means usually a predominating aortic insufficiency with little or a moderate degree of stenosis added to the mitral disease. The aortic insufficiency causes a still greater enlargement of the left ventricle and the well-known vascular phenomena are easily seen. For some unknown reason a combination of mitral and aortic disease is less of a handicap to the heart than either alone.

According to Cabot, mitral insufficiency as a pure lesion is extremely rare, nevertheless, it is the most common diagnosis one meets with. This is due to the fact that many rely entirely upon the auscultatory findings, and a valvular lesion is wrongly diagnosed upon the hearing of only a systolic murmur. Systolic murmurs are the usual accidental murmurs, such as cardio-respiratory, and others of unknown origin. If carefully listened for, a systolic murmur

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will be heard at some time over almost all normal hearts.

Sixty years ago, Hughlings Jackson wrote "Never treat a patient on stethoscopic evidence only. The heart may be a bad musical instrument and yet a good force pump. However, noisy the first sound may be at the base of the heart, if the apex be in the right place, is there be no signs of hypertrophy, no anemia, if the pulse be good and, above all, if the patient does his work well, we have nothing to treat."

The necessity of using all possible data for the diagnosis of heart disease is at all times the least one can do, but when a heart is examined for the first time during the latter months of pregnancy the greatest care must be exercised. Any increase of abdominal pressure raises the height of the diaphragm displacing the heart upward and outward so that the apex is observed beyond its normal limits. The shift of the whole heart causes an apparent increase of Cardiac dullness to the left. With such a shifting of the heart a systolic murmur is almost constantly present. The diagnosis of mitral disease under such conditions must be made only after the elicitation of every possible finding.

THE COURSE OF RHEUMATIC HEART DISEASE: Following the attack of rheumatic fever a small number of patients never make a complete recovery, apparently harboring a quiescent infection. Such cases are very likely to have repeated attacks of rheumatic fever, often with further valve involvement, pericarditis and increasing myocarditis. Patients in this group usually die within a few years of heart failure, bacterial endocarditis or intercurrent infection. Some patients have a severe myocarditis, and although apparently free from infection, never develop a good compensation and ultimately succumb to endocarditis, heart failure or inter-current infection. Adhesive pericarditis is always a serious part of rheumatic heart disease when present, causing extreme dilatation and hypertrophy of all the chambers of the heart. These patients may be satisfactorily compensated, for a time, but are likely to succumb early to heart failure.

Fortunately, these serious types form only a small portion of the cases of rheumatic fever. Most patients make a remarkably complete recovery and have a period of from fifteen to twenty years when they are comparatively unaware of any decrease in cardiac reserve. During this stage, men are found doing the hardest type of manual labor. We have watched several boys with mitral disease, or combined mitral and aortic disease, become active members of high school and college football and basketball teams. In fact, if not carried beyond early manhood, and if there are no symptoms at the time, the heart muscle is probably better able to carry the load of a valvular lesion during later life, especially in the lighter occupations. Unfortunately, however, during this period they are especially liable to recurrences of the rheumatic fever and to extension of the valvular lesions. The scarred valves are especially liable to bacterial infection of the valves, resulting in a usually fatal, bacterial endocarditis. After 40 years of age they become increasingly liable to heart failure from overwork. Rarely, the mitral ring may contract to such a narrowed opening that the mechanical effect alone is sufficient to cause failure of the right heart.

CARDIAC ARRHYTHMIAS: Sinus arrhythmia, premature contractions and paroxysmal tachycardia may occur in either normal or diseased hearts. Heart block, auricular flutter and auricular fibrillation are not rare in rheumatic heart disease, and the latter two are often the cause of cardiac failure.

SINUS ARRHYTHMIA: It will be noted that if a patient is asked to breathe deeply there will be an increase in the heart rate during inspiration and a decrease during expiration. This arrhythmia is at times accentuated during pregnancy, and is mentioned only to call attention to the fact that sinus arrhythmia is a normal phenomena due to variations of vagus nerve tone.

PREMATURE CONTRACTIONS: If any point of the heart muscle outside the normal pace-maker, the sino-auricular node, becomes hyper-irritable, it may become the pace-maker and cause contraction of the auricle or ventricle ahead of the regular sinus impulse. When premature contractions occur, a longer pause than usual follows the compensatory pause. At times the premature contraction fails to cause an impulse in the radial artery, and is interpreted as a lost beat. As this is characteristic of heart block the two must be differentiated. During auscultation, at the apex at least, the first tone is always heard during a premature contraction, while in heart block nothing is heard at the apex during the absence of the radial pulse. The presence of premature contractions is evidence of increased irritability of the heart muscle. During pregnancy such increased irritability may result from the displacement of the heart by the increased abdominal pressure. Premature contractions on the whole are of no clinical significance.

PAROXYSMAL TACHYCARDIA has a mechanism very similar to that of premature contractions. The attack is usually initiated by a series of premature contractions, which are followed by a very rapid regular rhythm, usually rates of from 160 to 200 per minute. The attack may last from a few minutes to hours or days. The only danger in an attack of paroxysmal tachycardia is when it lasts long enough to cause fatigue, or even failure of the muscle.

AURICULAR FLUTTER: The auricles assume a rapid rate, from 320 to 360 per minute, with usually a ventricular rate of one-half the auricular rate (two to one, block). At times the ventricle may beat with the rhythm of a three to one, or four to one block. The latter causes a rate nearly normal, in which case the flutter may be overlooked. Auricular flutter is always evidence of severe muscle damage. It may precede the development of an auricular fibrillation in mitral disease.

AURICULAR FIBRILLATION: In this condition there is no synchronized contraction of the auricles, and as far as the circulation is concerned the auricles are paralyzed. Eighty percent of all cases of auricular fibrillation occur in mitral disease, probably because of over-distension of the left auricle. It is a com-

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mon cause of acute and chronic heart failure in rheumatic heart disease.

HEART BLOCK: When there is injury to the auriculoventricular bundle (bundle of His) the impulses from the auricle to the ventricle may be delayed (prolonged conduction time), some impulses may be blocked (partial heart block), or all impulses may be blocked (complete heart block or auricular ventricular disassociation). Heart block is most common in older persons because of circulatory disturbance of the bundle, gummata or tumors. There is electrocardiographic evidence of injury to the A-V bundle in a large percentage of cases of acute rheumatic fever; a few may persist after recovery from the acute infection. The serious effects of heart block are, first, that digitalis therapy increases the degree of block; second, in complete block the ventricular rate may fall to 10-20 per minute and cause the Adam-Stokes syndrome with the attendant epileptiform seizures.

THE MECHANISM OF FAILURE IN MITRAL DISEASE: Acute heart failure may be precipitated by the sudden onset of an auricular flutter or fibrillation. A not infrequent cause is the development of an acute bacterial endocarditis with its associated phenomena, fever, chills, petechia and emboli, progressive anemia and often infarcts in the brain, kidney or extremities.

Gradual muscle failure of the left ventricle results in increased pulmonary congestion, a chronic pulmonary edema, and frequently pulmonary hemorrhage. Acute failure may precipitate an acute pulmonary edema. Overloading of the right ventricle from the increased pulmonary pressure results in peripheral edema, especially with swelling and congestion of the liver. Later there may be dilatation of the tricuspid ring with insufficiency of the tricuspid valve, as evidenced by a pulsating liver. Acute failure of the right ventricle causes an acute peripheral congestion, distended veins, and especially acute swelling of the liver. This causes severe pain referred to the back and right shoulder, simulating greatly an acute gallbladder disease. As jaundice may be caused, acute or chronic liver congestion, the picture may be more clouded. In several instances I have seen post-operatively cases of cardiac failure with liver congestion that had been operated upon with the diagnosis of gallbladder disease.

A study of 741 consecutive cases from the general cardiac clinic revealed 426 cases of rheumatic heart disease, or 57.6 per cent; of these, 247 were males and 179 females. (See table No. 3) When analyzed, there are found an increasing number in attendance at the clinic, with each increase of ten years of age. The very low figures for children under 10 years of age are due to the fact that this group is segregated in a special clinic. Because of the importance of care at this age the children are much more carefully followed up, and insistence upon regular attendance is more rigidly enforced. Accordingly, there is a disproportionate number of children, and this group is not included in this series. Attendance at the adult clinic is voluntary, and because of the large numbers involved and present economic conditions, rigid attendance is not enforced. The increase in the number attending the clinic during each decade means that up to these periods the patients have

been comparatively free from symptoms and are now finding medical advice necessary. As patients are admitted to the follow-up clinic only after having been referred from the hospital wards, admission to the clinic means, almost always, that there has been a preceding cardiac failure.

The increase in numbers at the later decades, then, also means that these are the periods when chronic cardiac failure is most likely to occur. Furthermore, it is noted that in the male group there is a sudden falling off in numbers during the sixth decade, and that thereafter the numbers are insignificant. There is a similar increase and decrease in the numbers in attendance during each succeeding decade among the females; but it will be noted that the greater number of women occurs during the second decade. In other words, apparently females find medical advice necessary ten to twenty years earlier than men. There is the same falling off of numbers in the later decades as that noted in the males, with the marked difference that the decrease occurs during the fifth decade instead of the sixth, as in the males. Also, there are much fewer women during the sixth and seventh decades than there are men.

The sudden disappearance of the rheumatic type of heart disease between the fifth and sixth decades is interpreted as meaning that practically all cases of rheumatic fever are dead. This being true, it will be further noted that the males live approximately a decade longer than the females. Accordingly, under the best conditions, the life expectancy of males is but little over 50 years, and that of females little over 40.

ARTERIOSCLEROSIS: There were 239 cases, or 32.2 per cent, classified as arteriosclerosis; in which group there were 192 males and 47 females. In both men and women the number of cases in the decades preceding the fifth are insignificant, being 12.7 per cent of females and only 3.1 per cent of males.

CARDIOVASCULAR SYPHILIS: As shown by the tables, this is an infrequent disease among women, namely, 0.9 per cent, and there are too few cases to draw conclusions, other than that its occurrence is well confined to the third, fourth and fifth decades, as it is among the men. The total number of cases of cardiovascular syphilis is only 10.2 per cent, being somewhat lower than the general incidence of the decade in the Cook County Hospital, namely 16 per

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cent.

It has been noted that Osler says that women on the whole bear heart disease better than men. Apparently the opposite is true, according to our statistics. The first edition of Osler's Practice of Medicine was written in 189- when men worked twelve hours or even longer per day; now most men work an 8 hour day, whereas the housewife has no limitation of either hours or duties.

Thirteen hundred and fifty patients referred to the prenatal heart clinic as having some abnormal heart finding have been studied. In practically all this group the finding of a systolic murmur over the precordium was the reason for transfer; in some there was an unexplainable tachycardia; in others, dyspnoea from any cause, the rapid heart of hyperthyroidism, and any type of arrhythmia. The cases upon which there was most disagreement were those with a systolic murmur and definite displacement of the apex beat.

Of these cases, 114 were diagnosed as mitral disease, 61 of which were considered to have a predominant stenosis. The age of the patients ranged from 14 to 45 years; 44 were primipara and 63 were multipara, the parity running as high as twenty. One-third of this group, or 37, have been under observation for five years or more; 11 of these gave a history of having suffered previous decompensation; only 36 gave a positive history of acute rheumatic fever, chorea or tonsillitis.

There were 7 cases of combined aortic insufficiency and mitral disease. These all gave a definite history of rheumatic fever, and all had negative Wassermann reactions. All 7 of these have been under observation for more than six years. One was a para eight when she first came to the clinic, and went successfully through three pregnancies before she consented finally to sterilization with x-ray. Another was a colored girl 17 years of age. When first seen in the general heart clinic she was hospitalized because of a sub-acute bacterial endocarditis. She later went home and was in bed with a fever for three months under the supervision of a visiting nurse and a country doctor. While bedridden she became pregnant. Although the fever continued during the first three months of the pregnancy she was ultimately delivered normally, and a year later underwent a second uneventful pregnancy.

There were five syphilitics in this group, in all of whom a syphilitic aortitis was diagnosed, and in three of which aortic insufficiency developed. These three are of unusual interest in that they were all under 25 years of age and had had no anti-syphilitic treatment. As a preventive of rapid dilatation of the aorta in cases of aortic syphilis, it is the policy of the clinic to use no arsenical preparations, but rather to rely upon small doses of mercury and iodides. Although no active therapy was used we watched two of these cases develop aortic insufficiency during their care in the clinic. This appears to be somewhat unique, as such early aortic syphilis is but rarely seen in the general clinic, and brings up the possibility that the pregnancy may have been a factor in accelerating the progress of the vascular syphilis. In the active therapy of syphilis with the arsenicals and bismuth, acute dilatation of the aorta with development of aortic insufficiency is quite commonly seen.

SYMPTOMS COMPLAINED OF BY THE MITRAL DISEASE GROUP: Over half of the group (76) complained of no symptoms other than intermittent dyspnoea or mild edema, the severity of both symptoms being within the limits frequently observed during normal pregnancy. Thirty complained of more dyspnoea and edema than the pregnancy alone could account for; 19 complained of chronic cough and 12 of chest pains, not angina.

MANAGEMENT DURING PREGNANCY: All patients attending the clinic are easily admitted to the hospital at any time, and may stay until well able to return to their normal routine. With this in mind, at the first appearance of untoward symptoms the patient was immediately sent into the hospital. Frequency of attendance at the clinic depended upon the patient's condition, but all fully understood that the appearance of dyspnoea or edema required that they come immediately to the clinic, or if urgent, that they immediately apply for hospital admission. The best treatment of heart disease is preventive. If the patient is seen at regular intervals, is educated as to the signs of beginning failure and reports them immediately, often a short rest or other therapy will prevent the development of a real decompensation. The criteria of the functional capacity of the heart muscle, as learned by the various so-called tolerance tests, is of very uncertain value. Theoretically, they should give a moderately accurate estimation of heart capacity, but they are all tests of usually unused muscles. Habitual use of certain muscle groups appears to require less effort than those less often used. For instance, a laborer with aortic insufficiency, whose job was the swinging of a twelve-pound sledge hammer found it easy to continue his work with a six-pound hammer, but was unable to climb a single flight of stairs. Another, whose job as an iron founder required him to lift one-half of the weight of a 300 pound casting, suffered rapid heart failure while working as a taxicab starter, a position which was obtained for him to save the supposed extreme exertion of his regular occupation. In our experience, the best test of the cardiac function is the reaction of the circulation to the patient's usual activities.

The earliest signs of beginning heart failure are: Fatigue, when excessive at the end of a usual day's activities, and especially when felt upon arising in the morning. Fatigue is usually the earliest warning, and often precedes by some time the appearance of other symptoms. Dyspnoea upon exertion is always an early sign of beginning heart failure. Edema of the ankles at the end of the day, disappearing during the night, is also an early symptom. It is to be remembered that shortness of breath and some edema of the ankles are common findings during the later months of pregnancy, and are of much more significance when occurring in the early months.

While at home, the patient was never given any drug therapy. All were advised to curtail their house-

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hold activities and rest in bed not less than two hours daily. When they complained of fatigue, dyspnoea, difficulty in lying down without more than one pillow, or if the pulse was found to be above 100 after rest, the patient was sent to the hospital. Such therapy as indicated was used, but upon the whole we relied upon bed rest and sedatives if necessary. When the patient could be about the ward without discomfort she was allowed to return to her home. In all, 24 patients were admitted to the hospital during pregnancy, a few several times. One-third of the patients were sent into the hospital from three to twenty days before delivery, as a preventive measure. As a consequence, all the 126 patients were carried through one or more pregnancies without the development of alarming symptoms up to the time of labor.

The treatment during labor was also on the whole the treatment of the normal case. The prenatal visits gave opportunity for pelvic measurements and any evidences of cephalo pelvic disproportion, so that the sole consideration of the case was the probability of the heart being able to withstand the labor.

It is generally agreed that the first stage of labor does not add greatly to the strain upon the heart, except as the result of exhaustion and mental unrest. To prevent both of these, all patients were given morphine sulphate, gr. one-fourth, and scopolamine gr. 1/150 hypodermically. This was given after dilatation of the cervix has reached 3 cm. in primipara, and as soon as labor had definitely begun in multipara. The morphine and scopolamine was repeated in four hours if necessary. In the second stage, if progress was rapid, the normal process was not interfered with. If, after the cervix became completely dilated, the progress became slow or any cardiac symptoms developed, the labor was terminated under ether anesthesia and the use of forceps. As a rule the labor proceeded normally, and frequently with very rapid progress.

OPERATIVE PROCEDURES: Labor was induced by the use of the bag because of associated hypertension and pre-eclamptic symptoms in one case. One bag induction was done because the patient was at term; this was done without our advice by another attending man. One Caesarian section was done for pelvic disproportion diagnosed before labor began. One Caesarian section was done in a multipara to permit sterilization. Low forceps delivery was done twenty-three times, and forceps applied in the midplane five times in fifty-one primipara. Low forceps was used and midplane application, three times in 75 multipara. One version and extraction was done on the second twin of a gravida five.

RESULTS: Under this management, 126 patients have delivered 189 babies. Two cases aborted spontaneously before the fifth month of pregnancy. Three non-viable premature babies were born, including one pair of twins. Eleven premature babies were born after viability, two of which failed to survive. One full term normally delivered infant died of pneumonia.

No patient died during either pregnancy or labor. There were two cases of cardiac embarrassment during labor. One, a primipara, came to the hospital in labor, having refused to enter the hospital a week earlier. At the end of a long first stage, she showed evidence of moderate cardiac distress and was de-

livered by forceps. The other was in the ward for several days, but through some error no one learned that she was in labor until the cervix was completely dilated. She developed acute pulmonary edema and was rapidly delivered in the sitting position. Neither of these mothers died. Both babies were born alive, but one died of pneumonia on the seventeenth day.

One patient died before leaving the hospital. She had been well throughout her pregnancy and was in the ward before labor began. This is the case in which a bag was inserted merely because she had reached term. The bag was removed after twenty-four hours, and labor started ten hours later. The labor lasted only four hours and was normal. On the fifth day postpartum she developed a fever, which continued for six weeks, when she died. The diagnosis had been a bacterial endocarditis, and at autopsy the diagnosis was confirmed and no other evidence of focal infection was found.

One patient died after leaving the hospital. She was 45 years of age and was first seen during her twentieth pregnancy. Six weeks after leaving the hospital she returned with a severe broken compensation, and with moderate recovery left the hospital at the end of ten days. She returned at frequent intervals, and died in the hospital during her fifth re-entrance. Twelve patients returned to the hospital after delivery because of heart failure. Except for the fatal case, none have returned to the hospital in less than five months after delivery. They have been in the hospital or a convalescent home from one to five times. Three have had only one pregnancy. Four have been complicated by an auricular fibrillation for from nine to eighteen months; of these, one is a primipara of 20 years, one a para three of 31 years, one a para eight of 36 years, and one a para six, 41 years of age.

During the time these patients have been under observation there have been 79 cases of heart disease complicated by pregnancy—who have entered the hospital for treatment without attending the prenatal clinic; all had definite signs of broken compensation, and 61 were in labor at the time of admission. There were 21 first pregnancies in the group; 54 were in the ninth month of pregnancy, most of them being at term. Of these 79 patients, 21 died, or 26.5 per cent; 5 died before delivery and the others from ten hours to eleven days after delivery. While it is impossible to compare definitely the severity of the cardiac lesions in these patients with those in our group of 126, there appears to be no question that we are justified in believing that the real danger to the pregnant cardiac patient is to be allowed to approach labor with definite evidences of heart failure. For those who have been kept compensated up to the time of onset of labor, there seems to be but a small chance of any untoward accident.

One is somewhat amazed at the low mortality in this series—2 patients, or 1.6 per cent. This is

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explained by the fact that these patients did not apply for care because of their valvular heart disease, of which they were often unaware, but because they were pregnant. On the other hand, attendance at the general cardiac clinic is because of the fact that they have first been admitted to the hospital with cardiac failure and after their stay there, are referred for care to the follow-up clinic.

Accordingly, the cases of mitral disease in women attending the clinic were collected and divided into a group in which no pregnancy had occurred, and one in which pregnancies had occurred. (Table No. 4). In this group no pregnancy occurred before the age of 20, so the decades under that age are not included. The average deaths in both groups is nearly the same as is in the third and fourth decades. In the fifth decades the deaths in the child-bearing group is somewhat higher than that with no pregnancies—namely, 63.6 per cent and 47.6 per cent respectively.

DISCUSSION

The comparative rarity of childbearing after the age of 35 to 40 years makes it the exception that either cardiovascular syphilis or arteriosclerosis is complicated by pregnancy. As rheumatic heart disease is acquired before the age of 20, it is the only type of heart disease which coincides with the childbearing period. When groups of women with rheumatic valvular disease who have and have not gone through pregnancy are compared, the morbidity and mortality and the total duration of life appear to coincide.

As a result of our study, it would appear that the compensated valvular lesion withstands both pregnancy and labor. In the pregnancy which terminates in labor during chronic cardiac failure, the failure may be due solely to the pregnancy, but in comparison to a non-pregnancy group, such failures are just as likely to occur spontaneously. It appears that much of the danger of heart disease complicated by pregnancy is not truly a result of the pregnancy but is rather due to the natural course of the disease. In this series women with extensive but compensated valvular lesions have borne many pregnancies without accident, the highest being twenty full term pregnancies. One woman, a para five, entered the clinic six years ago. She had a mitral and aortic disease and a moderate adhesive pericarditis. She was advised to have a Caesarian section and be sterilized, but refused. During the next five years she went through three more pregnancies without accident and consented to sterilization after the last delivery.

The patients reported in this series belong entirely to the clientele of a large charity hospital. Their co-operation cannot be that of the better class private patient, because of ignorance, prejudice and economic dependence; and yet when given prenatal care not a single patient has died during pregnancy or labor. This is not to be interpreted as deprecating the most careful surveillance of the patient with heart disease and pregnancy; Rest, immediate care of any untoward symptoms, and education of the patient to the point of complete cooperation.

CONCLUSIONS

An analysis of the natural course of rheumatic heart disease is made.

This course does not appear to be changed by the

occurrence of pregnancy and labor.

When the pregnant woman with heart disease is supervised with sufficient care so that she enters labor without heart failure, there appears to be no more danger of death than to the normal woman.

Repeated pregnancies do not modify the life expectancy of the woman with heart disease.

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Notice

Academy of Physical Medicine Annual Meeting, June 12 and 13, the Claridge Hotel, Atlantic City, New Jersey. For further information address Arthur H. Ring, M.D., Secretary-Treasurer, Arlington, Mass.

Resolutions

Whereas Death has entered our ranks and removed from membership one of our fellows:

Therefore be it resolved by the Monroe County Medical Society at its regular monthly meeting on the night of March the fourth, nineteen thirty-five, that in the death of Dr. I. P. Burdine, Sr., the society has lost one of its most valuable members:

Be it further resolved that in his death the profession of medicine has lost one of its most brilliant and scholarly men; Monroe County and Mississippi have lost one of their best and most influential citizens; Amory and surrounding territory has lost a capable and conscientious physician; his acquaintances have lost a true and loyal friend; his wife has lost a faithful spouse; his son and daughter have lost a kind and indulgent father.

Be it further resolved that while we realize that these great losses may never be fully recovered from, we, the members of the Monroe County Medical Society wish to extend our deepest sympathy to all those who mourn his death.

Be it further resolved that these resolutions be spread upon the minutes of the society, that they be furnished all the papers published in Monroe County and **The Mississippi Doctor** for publication and a copy of same be sent to the bereaved family.

J. P. WARD, Secretary

Monroe County Medical Association

Aberdeen, Miss.

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Three Cases That Presented Diagnostic Problems

DR. FRANKLIN T. BOWER
Hattiesburg, Miss.

In reviewing my histories for the past year I find three, which held for me, from the standpoint of diagnosis, most unusual interest. With your forbearance I would like to present briefly these three cases.

The first case came to me with the history of having suffered from attacks of epilepsy for the past eighteen years. During this time she had continuously been medicated with luminal. Rather large daily doses had been prescribed and taken and the patient had continually been depressed from the drug and by the fact that she had to take it to keep from having the attacks. It seemed unfortunate that a patient who had treated this patient had taken the epilepsy "for granted" and given her luminal, with very little true investigation of her case.

Her first attack occurred during her first pregnancy about eighteen years ago. Her childhood had apparently been normal with proper mental and physical development. She had had diseases of childhood but none of apparent seriousness, no severe injury and no operations. The attacks which have been quite prevalent and without remission of any length of time have manifested themselves as rather typical grand mal. Usually she can tell of their approach, loses consciousness, bites tongue, often loses sphincteric control and on several occasions had mildly injured herself.

Examination revealed a well nourished adult female of an apparent age of thirty-five, (her correct age is 37) of excellent appearance and poise. Does not appear anemic, no discoloration of skin or mucous membranes on casual inspection. The pupils are equal and react to light and accommodation; no exophthalmos; fundi negative. Nose and ears negative. Teeth in good condition. Tongue protrudes normally in mid-line. Tonsils removed (three years ago). The teeth are well formed; there is not an unusually high palate; the ears are well formed with definite lobes; no Darwin tubercle.

There is no enlargement of thyroid, no palpable posterior cervical glands.

Lungs seem clear and resonant throughout. No rales heard.

Heart—Sounds distinct and regular. No shock, thrill or murmur.

Abdomen—rounded with considerable panniculus. No masses felt. Tenderness elicited over the gall bladder region. Liver and spleen not felt. No evidence of hernia.

Extremities show no varicose veins. Patellar reflexes equal and normal. There are pads of considerable fat over each hip.

The skin is of fine texture, with normal turgor and shows no lesion. The distribution of hair seems to be normal.

Her blood pressure on most occasions was low, ranging from 100 to 108 systolic with proper corresponding diastolic. Her blood count showed nothing remarkable. The urine was essentially negative. The

blood Wassermann negative. Basal metabolic rate was minus 2. Blood sugar was low, running from 60 to 80 m.g. percent.

A lateral skiagraph of the skull showed a sella turcica of about normal size but was shown to be "roofed" over. There was a plate of bone extending from the anterior to posterior clinoid processes. Skull otherwise normal.

Because of the history of these attacks being worse during pregnancy and during menstrual periods and, in fact, having occurred for the first time during pregnancy it seemed very logical to assume that they were due to boxing in of the pituitary gland. When the demand for the pituitary hormone was increased, the gland enlarged to meet the supply and consequently was "choked" or limited and thus unable to meet the demand, with consequent hormonal deficiency.

Because of the low blood sugar it was assumed that the patient had more or less of a dysinsulinism, with at times an hyperinsulinism. In fact she had noticed that on previous occasions a "toddy" of whiskey seemed to avert the attacks if given in time.

In our present insufficient knowledge of the endocrines it is rather difficult to formulate their mechanism with any degree of completeness. However, the "proof of the pudding is the eating" and treatment in this case has been very gratifying. She was given solution of desiccated anterior pituitary (6 gr. to cc.) 1 c.c. twice a week and increased in amount near menstrual periods in an attempt to supply lack of this hormone and desiccated supra renal Gr. V tid. per os in an effort to overcome the hyperinsulinism and thus increase the blood sugar. She is extremely pleased with the results. She has been able to eliminate entirely the luminal and all other sedative drugs, the taking of which gave her great distress. She has had but two very mild attacks during this time which were of very brief duration and during which she did not lose consciousness.

The next case is that of an adult male, aged 35 who sought medical advice because of a rather hard chill. He stated that he had been "ailing" for about two months and attributed the onset to an attack of influenza. The chill was accompanied by fever which subsided in a few hours. At irregular intervals of from two or three days, to a week the patient was attacked with severe chills and moderately high fever which rapidly subsided and was followed by sweating. Other than backache and pains in the legs at the time of the chills patient exhibited no other symptoms. Numbers of examinations for malaria were made with negative results. The urine at this time showed nothing unusual. There was a slight leukocytosis about 12,000 w.b.c. As thorough an examination as possible was made at the patient's home and despite the negative blood findings for malaria the patient was given quinine with no abatement of the chills and fever, and, following the quinine

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was given atabrine and plasmochin. The patient continued to lose weight and strength and continued a mild and irregular fever. He was advised to come in for complete examination.

On examination patient was an asthenic type—considerable underweight; rather sallow appearance and apparently somewhat anemic.

The pupils were equal and reacted to l. & a. No discoloration of sclerae—fundi negative. Ear negative. Nose shows slight deviation of septum.

Teeth—very bad—several “crowns” with marked pyorrhea. Teeth under crowns probably in very bad condition.

Tonsils show no evidence of disease.

Neck shows prominent thyroid cartilages—no enlargement of thyroid. No palpable posterior cervical glands.

Chest—Long, thin, with acute costal angle. Ribs and interspaces prominent. Thorax seems symmetrical and expansion seems equal. No abnormal area of dullness noted. Vocal fremitus seems equal on the two sides. Vesicular breathing, which seemed somewhat exaggerated but no definite rales heard.

Heart—Apex in 5th l. i.s. inside nipple line. No enlargement on percussion. No shock, thrill or murmur noted.

Abdomen—retracted—no masses or areas of tenderness. Liver and spleen not palpated. No evidence of hernia.

Genitalia—Negative.

Extremities—No varicose veins. Patella reflexes present and equal.

Blood pressure—Systolic 118, Diastolic 60.

Blood count—W.B.C. 14,000, Polymorphonuclears 83%; S. L. 14%; L. L. 3%.

Urinalysis—Deep amber, clear, acid, sp. gr. 1022, no albumin, no sugar, few pus and epithelial cells, no casts, some mucus, bile positive.

Agglutination tests for typhoid and undulant fever negative on four different occasions.

Blood Wassermann—3 plus on three occasions.

Skiagraph of Chest—No areas of consolidation. Lung markings normal. Heart shadow about normal.

Patient refused to have teeth X-Rayed because he was going to have a dentist remove crowns and whatever teeth were necessary.

Because of negative findings, with exception of teeth and blood Wassermann, the patient was advised to have the dental work done at once and was started on antiluetic treatment. He was given eight intravenous injections of neoarsphenamine and twelve intramuscular injections of thiobismol. After the first dose of neoarsphenamine the patient showed such marked improvement that considerable hope was felt; however, he did not cooperate very well with the treatment and neglected to have his dental work attended to. After temporary improvement his condition gradually became worse, failing in weight and strength until he was confined to bed. Examination of his urine at this time, about three months after first treatment, showed albumin, pus, casts and a few red blood cells. The blood count showed a high leukocytosis 20,000 with a high polymorphonuclear count. Blood culture showed no growth on two occasions.

Various consultations resulted in but various differences of opinions in regard to the diagnosis. The

patient had become quite emaciated, was rather anemic and had had a gradual failure of strength and a corresponding failing in appetite. His fever was quite moderate but very irregular. Because of the symptoms Miliary tuberculosis was strongly considered but no definite evidence could be found. Pus inside or outside the kidney was suggested; there was no tenderness or local signs. Typhoid and undulant fever seemed to be ruled out because of the laboratory findings. About this time the patient finally decided, after having been persuaded a long time, to have his teeth attended to. The dentist removed the crowns and the teeth, one or two at a time and on each occasion he found considerable pus at the roots.

The urinary findings at this time were quite definite, but because of the previous earlier negative findings the results now were considered to be secondary to the underlying process.

Cystoscopic examination with pyelogram failed to find evidence of more than a pyogenic infection of both kidneys.

The patient's condition had become so bad that it was necessary to resort to blood transfusions, which gave him considerably temporary improvement.

On one occasion small petechiae were noted on both arms. These rapidly disappeared and did not recur.

The patient's condition gradually became worse, until emaciation was extreme and he succumbed. It was impossible to obtain an autopsy.

Even in the absence of definite cardiac symptoms but suggested by the petechiae, however evanescent, a diagnosis was made of subacute bacterial endocarditis.

The next patient was referred to me by a physician who said he thought the patient was suffering from some obscure “nervous” derangement. After arranging for an appointment I was called in an emergency capacity, the patient having extremely difficult respiration. The patient was a boy seventeen years of age of quite robust appearance. After excluding the probability of malingering or major hysteria it seemed that the patient was suffering from a more or less generalized paralysis and that this was involving the muscles of respiration. The respiratory embarrassment was alleviated after a short time, fortunately.

The patient gave a history of having had an attack of slowly developing paralysis about two years ago. This began in his feet, which felt numb, and gradually involved a considerable part of his body. After being confined to bed for three months he apparently recovered and was able to do work such as plowing, going to school, where his studies were satisfactory, playing baseball, swimming, etc. However, he has been almost continuously troubled with enuresis; there is some frequency during the day but no loss of bladder control while awake. The present attack began about two weeks ago, the patient complain-

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ing that his feet felt as if there were pins and needles sticking in them. He gradually lost muscular control so that he was unable to walk. Later his arms became involved. Three days previous to this examination his tonsils had been removed; they had been diseased for some time and his doctor had thought this might relieve his condition. Following the tonsillectomy his condition became much worse and at the present time has but slight use of arms or legs. For past two days has complained of pains in back and shoulders. Seldom has headaches. Appetite usually good. Bowels regular with no loss of control.

There was nothing in the family history which seemed to be important. In regard to the patient's past history he had had the usual childhood diseases, none of which were of unusual severity. No recent serious illnesses, no operations, other than the recent tonsillectomy; no serious injuries. Gives no history of venereal disease. Smokes considerably. No history of the use of alcohol. He was carefully questioned in regard to this and other members of the family interrogated concerning it. On examination patient was found to be fairly well nourished and developed young male in an apparently quite helpless state. He seemed to have good color. Eyes somewhat puffy. Pupils reacted to l. & a. Nose and ears negative. Tongue shows slight tremor and is coated. Fauces show sloughs from tonsillectomy. Teeth in good condition. Neck, thyroid not enlarged; no palpable posterior cervical glands; no rigidity. Lungs seem clear and resonant throughout, no rales heard. Heart, seems to be very slight enlargement on percussion; the sounds are clear; no shock, thrill or murmur noted. Abdomen, no masses or areas of tenderness; Liver and Spleen not palpated. Extremities: feet cold to touch; no varicose veins; no edema. Skin and genitalia negative. Blood pressure: Systolic 132, diastolic 82. Temperature 98, pulse 80.

Neurological considerations:

Eyes: Pupils equal and react to l & a. No impairment of muscular action; visual fields not contracted; no nystagmus. Fundus-veins seem somewhat engorged, discs clear, no evidence of retinitis.

Tongue: Fine tremor; no deviation on protruding.

Speech: Clear, no scanning or slurring.

Chvostek's sign negative. No other sign of tetany.

Neck: No rigidity.

Muscular action of extremities—impaired, very little use of muscles; unable to grip hand; incoordination.

Sensation—Hyperesthesia—Pain increased; temperature sense seems normal.

No muscular atrophy noted.

Asteriognosis—positive—could not tell what objects were when placed in hand.

Reflexes—Unable to elicit the patellar, bicipital or tricipital; cremasteric very slight; abdominal exaggerated. Babinski positive; no Oppenheim or Gordon; no ankleclonus.

Kernig's sign not present, but there is marked pain in calf muscles on execution of this test.

Feet are cold to sense of touch but the hands seem normal.

Station and gait not determined because patient confined to bed and practically helpless.

Other than the question of nocturnal enuresis

patient has had no bowel or bladder disturbance.

LABORATORY EXAMINATIONS

Urine: Light amber, slightly turbid, acid, sp. gr. 1025, trace albumin; no sugar; few pus, epithelial and r.b.c.; very many granular, hyaline and cell casts. (The field was practically covered with casts).

Blood count: Hb. 70% R.B.C. 4,400,000 W.B.C. 12,000. Differential—Polys. 40% S.L. 24% L. L. 10% Eosinophiles 21%.

Blood Wassermann—negative.

Feces: Ova of *uncinaria Americana*.

Diagnosis: Multiple neuritis with associated toxic nephrosis and avitaminosis.

The interesting features in this case were the rather marked degree of paralysis and the etiological factors. Alcohol was definitely ruled out. No other source of poisoning could be determined. The tonsils may have been the source of trouble. At all events he exhibited a marked nephrosis. It seemed very possible that there could very well be a food deficiency producing an avitaminosis, especially vitamin B.

The patient was treated for the kidney condition and given foods and extracts rich in vitamin B. Later he was put on measures to stimulate muscular tonicity. Happily the patient made a very gradual and more or less uneventful recovery.

Which Side of the Question Are You On?

Should mothers be given medical advice by neighbors, newspapers, manufacturers and other meddlers, gratuitously, OR

Should the problem of infant feeding be kept where it belongs—in the hands of the medical profession?

Mead Johnson & Company are and always have been definitely on the side of private medical practice, and this is one reason why we have refused to advertise "complete foods" which "simplify" infant feeding. The use of cow's milk, water and carbohydrate mixtures represents the one system of infant feeding that consistently, for three decades, has received universal pediatric recognition because it offers an adjustable formula for meeting the changing requirements of the individual baby as it progresses. Of all the carbohydrates available, no carbohydrate employed in this system of infant feeding enjoys so rich and enduring a background of authoritative clinical experience as Dextri-Maltose. Under the traditional Mead Policy, we re-affirm the fundamental principle that "Babies supervised by physicians are better babies." We continue to be voluntarily committed to the same side of this important medical economic question—as you.

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Infection, Susceptibility, and Vaccination In Acute Anterior Poliomyelitis*

JOHN A. KOLMER, M.D.
Philadelphia, Pa.

In this paper Dr. Kolmer presented in summary the studies leading to the development of an effective vaccine for the prophylaxis of infantile paralysis, described the vaccine, the method of administration, and summarized the results proving its efficiency and safety.

Since acute anterior poliomyelitis is a virus disease in which the rarity of second attacks suggests the production of a lasting immunity; and since the majority of viruses appear to be highly immunogenic, the development of a safe and efficient vaccine is the most promising method for the prevention of this disease.

The fact that the disease appears to be increasing in frequency, the varying mortality (7.3-43 per cent), the high percentage (25-45) of residual paralyses, and the large number of individuals whose blood is devoid of antiviral antibodies as shown by many studies (79.2 per cent of children under 4 years; 45.5 per cent from 5-14 years old; and 24.7 per cent of those over 15 years) indicating that in all communities there is probably a high proportion of susceptibles, especially among children under 10 years of age, emphasizes the importance of the problem. When, in addition, the fact is considered that not all convalescent sera are fit for prophylactic or therapeutic use, (from 12-63 per cent with an average of 30 per cent on actual trial showing no antiviral antibody content), the essential necessity for an efficient vaccine becomes obvious.

That, despite the data just given, second attacks are rare suggests that tissue immunity develops and resistance may be present even though antiviral antibodies cannot be demonstrated in the serum. Such tissue immunity may be due to subclinical unrecognized attacks or, as has been suggested, it may be a "maturation immunity" dependent upon physiological factors or endocrine functions but these cannot be relied upon for efficient prophylaxis since the disease frequently occurs before they have had time to bring about resistance.

Experiments indicate: a) that vaccine of passage virus is effective against human virus; b) that "dead" virus though weaker than attenuated virus, may be effective but also that, c) it must be concentrated to reduce tissue protein reactions and the necessity for elaboration by the body of protective mechanisms against such proteins; and d) that fine suspensions of cord tissue are desirable in order to secure the maximum of intracellular virus for immunizing purposes.

THE VACCINE.

The vaccine is prepared from a remote passage strain of the virus which apparently has lost most if not all of its human infectivity, the spinal cord be-

ing used because of its greater virus content as compared to brain tissue. The vaccine is still further devitalized by the addition of sodium ricinoleate the mixture being allowed to stand from 2 weeks to 1 month. Attenuation is stopped by refrigeration at 4°C. Vaccines a year old show no change in infectivity for the monkey nor in vaccinogenic activity. Bacterial contamination is guarded against by careful aseptic technic throughout in the preparation of the vaccine, by allowing the cords to stand for 1 month in 50 per cent glycerine in saline, and by strict cultural control of the completed vaccine. As now made the vaccine consists of 4% cord suspension in 1% sterile solution of sodium ricinoleate.

ADMINISTRATION.

The vaccine is given by subcutaneous hypodermic injection in a series of 3 doses at weekly intervals.

It has now been given to a relatively large number of children and adults, among the first being Dr. Kolmer, Miss Rule, his assistant, and his two sons.

There has never been the slightest ill effects. Local reactions of varying degree occur, never marked, and usually mild. Occasional mild temperature elevations were seen (100.2°F. being the highest) returning to normal in 48 hours. In some of the children there was a slight absolute increase in the neutrophilic polys (500-1200 per c.mm.) in the first 24 hours which, very probably, may be ascribed to the local reactions as these varied *pari passu*.

It is possible that the dose interval may be increased with added effectiveness.

DOSAGE.

The following are the doses advised:

1-3 years: 0.25 cc.; 0.5 cc.; and 0.5 cc.

4-10 years: 0.5 cc.; 0.5 cc.; and 1 cc.

11-15 years: 0.5 cc.; 0.5 cc.; and 1 or 2 cc.

Adults: 0.5 cc.; 1 cc.; and 3 cc.

RESULTS.

While neutralization studies have shown that demonstrable antiviral antibody production may occur after even one or two doses, two and preferably three doses are advised. Antibodies have been demonstrated as early as 48 and 96 hours after vaccination, in, of course, varying amounts.

This suggests the usefulness of vaccination during epidemics, especially as there does not appear to be any "negative phase" or period of increased susceptibility after the administration of the vaccine.

It is possible, as already mentioned, that still greater antibody production may follow ten day intervals between the injections.

Neutralization tests demonstrate the presence of antiviral antibodies in 75 per cent of children after vaccination whose blood before vaccination had no protective power, these children, moreover, being convalescent from various medical and surgical conditions and perhaps thus not being as well prepared to produce antibodies as healthy children.

Antibody production was even more marked in children whose blood before vaccination contained antibodies, possibly because their tissues were sensitized or "tuned up" by unrecognized previous virus infection and so more practiced, as it were, in antibody production to poliomyelitis virus.

*Abstract of a paper presented before The Mid-South Post Graduate Medical Assembly, Memphis, 1935.

GENERAL EFFECTIVENESS.

Experiments indicate that the poliomyelitis virus apparently may not exist in immunologically specific strains so that Kolmer's vaccine will probably be effective in all localities.

WHO SHOULD BE VACCINATED?

If the patient can afford the expense involved in the conduct of serum neutralization tests these can be relied upon as detecting susceptibles.

As about 80% of children under 4 years are susceptible, tests are not necessary in this group.

As the vaccine has been shown to be both safe and efficient vaccination in older children and adults may be a matter of choice but may justifiably be advised by the physician especially in epidemics.

As there apperes to be an important hereditary predisposition to the disease, the vaccination of children in families where the disease has appeared is particularly important.

DURATION OF PROTECTION.

The ultimate duration cannot yet be stated exactly as the vaccine has only been recently developed, although vaccinated monkeys remain insusceptible to intracerebral inoculations with virus 3 years later.

Even if it eventually develops that the immunity lasts only long enough to protect children through their susceptible period and until "maturation immunity" has developed, the method is of inestimable value.

The Consideration of a Few of Our Common Eye Conditions*

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As practitioners, we are all more or less interested in eye conditions, and in their corrections. In all of the smaller centers, practitioners see a great majority of eye conditions first, and, in a great many cases, have to treat them. A familiarity with the approved methods of examination is important, so as to arrive at a correct diagnosis. An ophthalmoscope is a necessary accessory with which the practitioner should provide himself.

Before discussing some of our common eye conditions it would not be amiss to consider the things to look for. The following brief outline suggests these:

(1) A careful history should be obtained, as most patients fall into certain types, namely, anemic, dissipated, tubercular, luetic, neurasthenic, plethoric. The diagnostician will not fail to take advantage of these observations.

(2) A general inspection of the eyes and lids for redness, swelling, discharge, scales, cysts, tumors, or rolling inward or outward of the lids. The inner surfaces of the lids should be examined as to the conditions of the conjunctiva, noting thickening, granulation, ulcers, or points of discoloration.

(3) The conjunctiva is observed, and, if a discharge, its type, whether watery, as found in an ob-

struction of the lacrimal apparatus; muco-purulent, as found in acute or chronic conjunctivitis; purulent, as found in gonorrheal ophthalmias. A differentiation of the types of the discharge can often not be determined without smears or cultures.

(4) A careful inspection of the cornea should be made to determine the presence of foreign bodies, ulcers, or opacities. Testing the cornea for its sensibility is often of value. The depth of the anterior chamber should be noted, also the clearness of the aqueous humor or the presence of pus or any exudation.

(5) The iris should be observed and compared with that of the other eye for the presence of exudates, pigment spots, or the presence of foreign bodies. Quivering of the iris is sometimes seen when there is a discoloration or absence of the lens.

(6) The pupil should be noted, as to its size and shape, also reflexes.

(7) The lens is best examined by oblique illumination. Its fixity of position should be noted. Cataractous conditions are discovered by the ophthalmoscope or oblique illumination.

(8) The position of the eye ball should be noted as to unusual prominence as found in exophthalmic goiters, or a recession, or whether the eye is larger or smaller than the normal size.

(9) A careful examination of the fundus often reveals much of interest. A study should be made of the nerve-head for swelling, congestion, pallor, cupping, or blurring of its outline; also the condition of the vessels of the fundus as to size, tortuosity, presence or absence of exudation or degenerated condition of the retina; also presence of tumors or detachments of retina.

Many of our eye conditions depend upon some disturbance in the bodily condition, and local treatment alone may not be sufficient to effect a cure. It is desirable, therefore, in certain cases that a careful examination of the blood, urine, teeth, nose, tonsils, accessory sinuses be made. X-ray and other examinations are often advisable. To treat a recurrent iritis is necessary, but an attempt should be made to determine the source of infection, and treatment instituted.

The most common complaint we meet in daily contact with our eye patients is headache. Errors of refraction are a frequent cause. It is not infrequent to find patients with minor errors, particularly minor degrees of astigmatism, relieved completely by properly fitted lenses. Pain is not complained of in cases with higher errors, as in those with minor errors. Much good is being accomplished by regular and routine examination of our school children through our health units. Early abnormalities are seen and advised to be corrected. Recurrent styes and chalazia in the vast majority of cases are accompanied by errors of refraction and are not corrected until the underlying cause is remedied. It is surprising the number of children with whom we come in contact whose scholastic work is retarded by diseased conditions of the eyes and refractive errors.

Squint, a condition frequently encountered in early childhood, and of interest to every doctor, requires early attention to prove successful, because children do not outgrow this defect. After the sixth or seventh year corrections of errors of refraction will

*Read before Northeast Mississippi Thirteen County Medical Society, West Point, Miss., March 19, 1935.

not correct this muscular abnormality. The vast majority of squint cases can be corrected by a carefully done refraction with complete relaxation of accommodation. It is sometimes necessary to instill atropine in the fixing eye daily and to keep this up for several weeks, discontinuing it at intervals to observe the function of the squinting eye. Muscular exercises of the eye muscles are often of value. Ordinarily if these procedures fail muscle recession is the only recourse, as advised by Dr. Reese. It is never advisable to instruct a patient to wait to have this condition corrected as amblyopia from disuse increases with age.

Another common eye condition with which we come in contact is glaucoma, which leaves over 15% of our patients blind. The high percentage of glaucoma is certainly sufficient to impress us with its gravity and to always consider it as a possibility in cases complaining of their eyes. The non-congestive type with its absence of pain occurs much more frequently than the acute or chronic congestive types, and its diagnosis is often difficult. Cases without signs of inflammation, complaining of decreased vision, should be studied carefully for the presence of glaucoma. Early diagnosis is imperative and treatment instituted early before irreparable damage is done. We, as physicians, should realize that eyes with increased pressure are on the road to blindness. Unfortunately the actual cure of glaucoma is impossible; the best that can be done is to establish artificial drainage. In some cases of glaucoma simplex, it may be held in check for years by treatment with some miotic, as eserine or pilocarpine. These patients should be kept under frequent observation and, if tension is not controlled, operative treatment instituted. Acute glaucoma is often confused with acute iritis, but we should not fall into this fatal error if we observe the signs with great care. In the acute inflammatory type of glaucoma the eye is deeply congested, the pupil is enlarged, the cornea is hazy from edema, the anterior chamber is shallow and the vision diminishes very rapidly. The accompanying pain is very severe, neuralgic in type, often accompanied by vomiting. The acute form is often followed by the chronic inflammatory type. The symptoms are similar to the acute form but less intense and not controlled by miotics. Either an iridectomy or trephine is indicated in most cases for the relief of pain.

Pterygia, a relatively frequent condition, causing considerable visual impairment if allowed to go without attention, is a much confused condition among the laity. A big percentage of people consider them cataractous and wait until the growth has progressed extensively before having them removed, resulting in scarring of the cornea and visual impairment. Early recognition and removal is advisable.

Before closing, I think it would not be amiss to call your attention to a matter which seems to be becoming very serious, especially in this territory.

For some months I have been receiving reports from different sources about so-called "specialists" visiting certain communities and claiming to be very skilled and reputable eye-surgeons. The patient is approached, usually in some rural community, and, after various amounts of information have been obtained, important among them being the patient's financial rating, the victim is told that he (or a member of his family) has a serious eye condition which requires

immediate treatment. If the person will not consent to go to New Orleans or Chicago, or New York, then he is told that he can receive treatment then and there as a special favor. Drops are used and a fee collected. On one occasion twelve hundred dollars (\$1200.00) was collected!

Now these "specialists" have been near Aberdeen and on several occasions have used my name. One man came into my office Saturday and told me that a doctor who claimed to be my brother had been to see him and had told him he would soon be totally blind if he did not have treatment by this man.

I think it is time that some action be taken, as these men not only frighten these patients very badly, but they usually rob them of large amounts of money. In some instances they could do irreparable damage to the eyes.

I imagine you other doctors have been receiving similar reports and I would appreciate any ideas and suggestions as to what we can do to protect the people from this evil practice.

Bronchiectasis

Bronchiectasis, one of the less common pulmonary conditions, must be constantly kept in mind by the clinician who treats chest diseases because it is so easily mistaken for tuberculosis. To the patient, bronchiectasis is more than a disease—he suffers not only its distressing symptoms but also an unbearable ostracism. Faulty diagnosis and delay in treatment make his condition more hopeless. Modern techniques of diagnosis and treatment have given the problem a much more hopeful aspect. In a recent article Drs. Jackson shed new light on the etiology of bronchiectasis, and this is in turn reflected in more effective treatment. Extracts of the article follow.

BRONCHIECTASIS—A SEPTIC TANK

The causes of bronchiectasis have long been a subject for discussion, pathological studies, and clinical research. These causes are well known, even if not conclusively proved, and they therefore do not need comprehensive presentation here. There are a few features, however, that do not seem to be generally considered responsible for bronchiectasis include:

1. Congenital factors,
2. Infection including predisposing causes thereto, foci in sinuses, teeth, tonsils, etc.,
3. Pathological changes in the bronchial wall,
4. Pathological changes in the peribronchial tissues,
5. Obstruction: trachea, bronchi, glottis,
6. Stagnation of secretions,
7. Positive endobronchial air-pressure.

To these should be added a factor largely overlooked, namely, (8) **the viscosity of certain bronchial secretions.**

In a well developed bronchiectasis three groups of organisms are involved: (1) the primary organisms in the primary focus; (2) the secondary saprophytic organisms that reduce viscosity; and (3) the organisms producing the pus that results from irritation of the bronchial mucosa by the biochemical productions of the saprophytes.

The last of these groups has not been generally recognized. When a mucous membrane, such as the bronchial mucosa, is kept in contact with an irritant material, pus is produced. The dilated bronchial sacs are in effect what the sanitary engineer calls septic tanks in which the biochemical products of the saprophytic organisms reduce the viscosity of the secretion, irritate the mucosa and produce pus swarming with organisms. The putrefactive organisms are not the primary ones but enter by way of the inspired air and by means of secretions of the mouth that are normally inspired by everyone during sleep.

OBTAINING SECRETIONS FOR STUDY

The unsatisfactory results of bacteriological studies on bronchiectasis have been attributed to oral contamination, but another factor is that the **primary pus is not expectorated at all** because of its high viscosity. It remains in the bronchiectatic septic tank until its viscosity is reduced by putrefaction.

Obviously, the method of obtaining material for bacteriological study is important. By means of the bronchoscope the superjacent pus, which always contains a variety of secondary organisms is first aspirated. Then when additional pus is forced in from the peripheral bronchi by the tussive squeeze (cough), this is collected separately. In it the saprophytes are relatively few and the odor usually is absent. In the residual pus are usually found the important organisms, time after time the same in the same patient. Vaccines prepared from them are of relatively much higher therapeutic value as compared to those from either sputum or the superjacent pus.

Bronchiectatic sputum is generally described as not being very adhesive. This may be true of expectorated sputum but not of the pus when first produced in the bronchi. Before saprophytic changes have taken place in the "septic tank" bronchiectatic pus is of tremendously high viscosity. This tenaciousness is a basic etiological factor in the disease. Because of it the pus cannot be efficiently expelled by cilia or bechic blast until its viscosity is diminished by putrefactive processes. The septic tank is not only a receptacle for septic materials but a container where bacterial processes change the character of the contents. These changes in the secretion constitute nature's way of rendering it easier of expulsion by reducing its viscosity. Unfortunately, however, they also render it more irritating and the stagnation of this irritating material promotes pathological changes in the bronchial walls, and thus constitutes an important etiological factor in bronchiectasis. The bronchiectatic septic tank exacts a fearful price for drainage.

PROPHYLAXIS AND TREATMENT

The removal of the viscid pus with a powerful aspirator should be instituted early in any suppurative disease of the bronchi. If, after the acute stage of any bronchial or pulmonary infection is over, there is not a progressive improvement in the signs, symptoms and roentgen-ray findings under medical care and management, including as it should postural drainage, bronchoscopic drainage should be instituted once or twice a week. This will often restore the defensive power of the lung and thus turn the tide.

To this should be added the administration of vaccines prepared from the material removed by the

bronchoscope from the depths of the suppurative focus. Opiates that annihilate the cough reflex and drugs, such as atropin, that thicken the secretions should be omitted.

Of utmost prophylactic importance is of course the elimination of infective foci in the teeth, tonsils and nasal accessory sinuses. It has been abundantly proved that in suppurative diseases of the bronchi and lungs the source of the infection is a focus in the region of the upper air-passages and there is much evidence to show that the route travelled is by the lymph channels as well as the air-passages. Prophylactic measures, therefore, are wisely undertaken, (1) before the onset of suppurative bronchial disease; (2) after the first bronchial symptoms; and (3) after bronchiectatic conditions have developed, to prevent reinfection and recurrence.

As in the prophylaxis of tuberculosis, all details of continuous medical care and management are of utmost importance; but they need no enumeration here. They should include prolonged daily rest in bed under outdoor conditions to increase resistance and build up a reserve.

It is of fundamental prophylactic importance for early diagnosis of every bronchopulmonary disease that every case of cough be run down to a definite cause and a definite lesion if possible. This is hypothetically admitted but practically it is not often done.

The prognosis is greatly improved by the use of bronchoscopic methods including (1) study of the local pathological conditions; (2) the elimination of the aggravating processes of the septic tank and (3) the discovery and cure of obstructive conditions.

If prophylaxis has been neglected and the septic tank condition has been established thorough study with the bronchoscope, including search for the underlying cause and an appraisal of the damage already done, is advised. Separate specimens are taken of the superjacent pus and the residual pus. Vaccines are prepared from the organisms predominating in the residual pus.

Local medication, using diluted neoarsphenamin, acriflavin, or other germicides may be helpful. The usual management of bronchiectasis is, of course, essential. The patient should be kept in bed under outdoor conditions the greater part of the day. Postural drainage should never be neglected and if possible it should be used at every coughing paroxysm. The cough should not be inhibited; in fact when a patient feels a paroxysm of coughing coming he should at once assume the most favorable posture and assist expectorative efficiency to the utmost.

The Bronchiectatic Septic Tank, Chevalier Jackson and Chevalier L. Jackson, *Amer. Rev. of Tuber.*, Dec., 1934.

Recent visitors at the office of the Mississippi State Board of Health were Dr. L. L. Lumsden, Medical Officer, U. S. Public Health Service; Miss Irma Fortune of the American Red Cross; and Dr. C. St. C. Guild of the National Tuberculosis Association.

Dr. McLester To Accompany American Delegation

It is estimated that between 200 and 300 medical men and scientists from the United States will attend the Fifteenth International Physiological Congress meeting in Leningrad and Moscow August 8 to 18. A short, inexpensive tour, closely packed with interest, has been officially arranged. Reservations for the tour and for attendance at the Congress may be made through your state journal for the groups sailing on the SS "Laconia" July 19 and on the SS "Berengaria" on July 25. Both groups will stop over in London and will have the opportunity, also, of attending there the Neurological Congress on July 29, 30, and 31.

A folder describing the expedition will be sent upon request. The present organization of State medicine in Russia is already a matter of world-wide interest to medical men and the tour should be a popular one. Dr. James S. McLester, President-Elect of the A. M. A., Prof. A. J. Carlson, Head of the Department of Physiology at the University of Chicago, and Dr. George Halperin, of the Journal of the American Medical Association, will accompany these groups to the Congress.

The physicians attending will be registered officially as members of the Physiological Congress and will enjoy all the privileges of such appointment. The Intourist has made remarkable concessions in matters of price and doctors' families may accompany them on the same terms. The scientific features of the tour will include visits to hospitals, research institutions, clinics, children's homes, and homes for workers. In addition there will be trips to museums, are galleries, theaters, and many typical new educational and cultural establishments.

From Moscow the delegations will proceed south to Yalta, the heart of the Crimea, visiting several great collective farms en route. A trip by boat along the coast of the Black Sea—the Russian Riviera—will afford the opportunity of viewing some of the most scenic spots in all Europe. The return trip will take the visitors through Warsaw, Berlin, and Paris.

Register through your state journal; it will be to our advantage as well as yours.

If interested write The Mississippi Doctor.

News And Comments

SCIENTIST'S WIFE HERE

Mississippi's most dramatic moment in the history of medicine was recounted in Jackson Thursday, when the widow of a great research physician returned to this state with gratitude in her heart.

Mississippi was the only state that gave her husband full support in his experiments to discover the cause of pellagra, Mrs. Joseph Goldberger, widow of the famed medical researcher, explained when she visited Dr. Felix J. Underwood, executive officer of the state health board, and Ex-Governor Earl Brewer, who was chief executive when Dr. Goldberger conducted his successful experiments in Mississippi.

Wet-eyed with emotion, Mrs. Goldberger greeted those who remembered her husband. She reviewed the long struggle, the jibes that other physicians hurl-

ed at him, when he dared suggest that pellagra was caused from a restricted diet.

Cries of "fakir" rang about him in other states, and Dr. Goldberger was an earnest, determined man when he came to Mississippi asking to conduct his experiment here.

Governor Brewer shook his head discouragingly when Dr. Goldberger went to him with his plan.

"Pellagra isn't caused from a restricted diet," the governor told the researcher. "I know, because I've just lost a friend, a state senator, who died of pellagra. That man didn't have to eat the foods that negroes eat, and I know his death wasn't caused from a restricted diet."

Dr. Goldberger asked the governor where the senator ate while in Jackson. He went to the restaurant, and soon returned to the governor's office with the restaurant proprietor and a negro waiter, who told Gov. Brewer that they well-remembered what the senator ate, because he ate the same foods, every day! And those foods were a perfect pellagra diet!

Gov. Brewer then gave his full consent to the experiment and promised pardons for 12 convicts who would volunteer as subjects for the experiments.

It was February 14, 1915, when Dr. Goldberger and his assistant, Dr. George A. Wheeler, viewed their "human guinea-pigs" with unconcealed excitement.

Isolated, guarded against any contact with other convicts, the 12 volunteers were beginning the experiment in a small camp at Parchman. Never in the history of Parchman had there been a case of pellagra. Dr. Goldberger realized that at last he had found a perfect spot in which to prove that pellagra is not caused by infection and contagion, but by diet.

One convict was discharged from the camp on July 1, because of another illness that necessitated treatment. Eleven remained, eating biscuits, corn-bread, grits, rice, mush, gravy, sweet potatoes, cabbage, collards and cane syrup, but absolutely no vegetable fats.

They did white-washing, and sawed lumber, but rested two and a half days a week.

Between September 12 and September 24, 1915, Dr. Goldberger saw his experiment begin to succeed, for six of the 11 men developed dermatitis, indicating the presence of pellagra.

Several famous physicians from many other states examined the convicts and diagnosed them as pellagra-sufferers!

The convicts were pardoned, and Governor Brewer yesterday told Mrs. Goldberger that not one of them ever run afoul of the law since then, but each had become a respected citizen.

Dr. Goldberger, who was a native of Austria-Hungary, conducted his medical research under the U. S. Public Health Service. He was given whole-hearted cooperation by Dr. E. H. Galloway, executive secretary of the state board of health at that time, and Dr. W. S. Leathers, then director of public health work in Mississippi.

To disprove the contagion and filth theory about pellagra, Dr. Goldberger, his assistants and his lovely wife, submitted themselves as experiments. Dr. Goldberger slept in the beds, in dirty hovels, where pellagra victims had died. He and his assistants ate unspeakable filth, joking about their horrible diet, to prove it could not be caused from filth, nor from contact with

a pellagra victim.

"Sometimes he experimented on me," Mrs. Goldberger said. "He was so sure that pellagra wasn't contagious that he injected the blood from a person suffering with pellagra into me, and of course, nothing happened."

When Dr. Goldberger died a few years ago after this nation had heaped honors upon him, and scoffers had been forced to believe the diet theory of pellagra, his ashes were scattered from a plane over the capitol in Washington.

His wife, a former New Orleans girl, Miss Mary Humphreys Farrar, daughter of Ned Farrar, one of the most brilliant lawyers New Orleans has ever known, was given a grant by the U. S. government in recognition of her husband's service to mankind.

Mrs. Goldberger has in her possession priceless daily letters he wrote her when he was away in other states and foreign countries, conducting his research in which he stated minute details of the experiments.

She is as keenly interested in medical research today, as she was when she cheerfully let her husband leave home on research work when she herself was ill, when she herself was subjected to experimentation.

She had medical theories of her own, and firmly believes that black tongue in dogs is really pellagra in dogs.

Two employees at the state health department remembered Dr. Goldberger, who used to spend much time in Jackson, very vividly, and very joyously greeted Mrs. Goldberger. They are Mrs. Adela Jones and Mrs. Irene Weathersby.

Dr. Goldberger was a member of the Rotary Club of Jackson, and he spent much time in the capital city and the state health department during his research. He is also noted for his original investigations on yellow fever, diphtheria carriers, dengue fever and measles.—Clipped from Jackson Daily News March 22, 1935.

PELLAGRA EXPERIMENT IN MISSISSIPPI PENITENTIARY—1915

In 1915, Joseph Goldberger and Geo. A. Wheeler, of the U. S. Public Health Service, made an experiment, attempting to produce pellagra in healthy men. This experiment was carried out at the farm of the Mississippi State Penitentiary, a few miles east of Jackson. On an isolated spot at this farm of 3200 acres, there is a prison camp, with cottages for officials, a hospital, barn, stables, and the like. During the period of the experiment, there were quartered in this camp an average of between 70 and 80 convicts, all white males. In this number were twelve, who, accepting an offer of pardon made them by Governor Earl Brewer and with the assurance of proper care and treatment should such be needed, volunteered to submit themselves to the experiment. There had never been a case of pellagra on the farm.

The twelve men were quartered in what was called the "new hospital building," a small screened one-story cottage about 500 feet from the "cage" in which the other convicts were domiciled. From the time of its organization the squad was strictly segregated and under guard day and night. From February 4 to April 19, 1915, these men were kept under observation without any change in diet. Having detected no evidence of pellagra during this preliminary period and having

established the desired routine of work and discipline, the diet was changed at noon April 19, 1915. On July 1, 1915, one of the men was discharged from the squad on account of prostatitis. This left eleven, with ages running from 24 to 50 years, who remained on the prescribed diet until October 31, 1915.

The quality and quantity of food consumed weekly by these men were as follows:

Biscuits 41.81 lbs.; corn bread 24.56 lbs.; grits 27.06 lbs.; rice 24.25 lbs.; fried mush 33.87 lbs.; brown gravy 37.81 lbs.; sweet potatoes 23.62 lbs.; cabbage 4.25 lbs.; collards 23.75 lbs.; cane syrup 5.94 lbs.; making a total of 255.67 lbs. of food consumed during the week, or 3.32 lbs. per man per day, having a caloric value of 2,952 calories per man per day. The sugar was white granulated, the syrup home-made cane syrup. No vegetable fats entered into the diet. The corn meal grits were of the best quality obtainable in the local market.

The weekly work performed by these men was as follows: White-washing fences and buildings, two and one-half days; sawing lumber, two days; resting two and one-half days.

The entire population of the camp was kept under observation and served as controls. The work done by the volunteers was about the same as that done by the other convicts, such differences as existed were in favor of the volunteers, especially during the latter part of the experimental period. The general sanitary environment was the same for volunteers and controls, but the hygienic environment—personal cleanliness, cleanliness of quarters, freedom from insects, especially bedbugs—was decidedly in favor of the volunteers.

Of the eleven men on the diet outlined above, not less than six developed symptoms, including a typical dermatitis, justifying a diagnosis of pellagra. The nervous and gastro-intestinal symptoms were mild, but distinct. The dermatitis was first noted between September 12 and 24, 1915, or not later than five months after the beginning of the restricted diet. The skin lesion was first recognized in all cases on the scrotum. Later, lesions appeared on the backs of the hands in two cases and the back of the neck in one case. A diagnosis of pellagra in these cases were concurred in by Dr. E. H. Galloway, secretary of the Mississippi State Board of Health; Dr. Nolan Stewart, formerly superintendent of the Mississippi State Hospital for the Insane at Jackson; Dr. Marcus Haase, professor of dermatology in the University of Tennessee; and Dr. Martin F. Engman, professor of dermatology in the Washington University Medical School, St. Louis, Mo.

From these experiments, Goldberger and Wheeler concluded that pellagra had been caused in at least six of the eleven volunteers, as the result of the restricted diet on which they subsisted.

Public Health News

During February, Dr. Underwood attended in Washington hearings before the Finance Committees in the House and Senate of Congress on the Public Health appropriation, as outlined in the Economic Security Bill. It is likely that the Public Health Service appropriation will be increased and that Mississippi will receive funds for enlarging the rural public

health program.

On Saturday evening, March 9, Dr. Clarence L. Scamman and Dr. Frank Walker of the Commonwealth Fund; Dr. Maxwell E. Lapham, Lecturer, Committee on Postgraduate Medical Education in Mississippi; and Dr. Felix J. Underwood had a meeting of the medical students who are attending Tulane Medical School on scholarships provided by the Commonwealth Fund through its plan of cooperation with the Mississippi State Board of Health and Tulane University. All of the nineteen boys who have so far received scholarships were there with the exception of one who is serving internship in a hospital in the East.

The following excerpts are from the 1934 Annual Report of the Commonwealth Fund. These statements evidence the interest the Fund has in the medical profession and the public health of Mississippi.

"In nursing as in other fields of public health activity, the Fund is interested not only in extending service, but in bettering it through training and standardization. In Tennessee, Mississippi, and Massachusetts, scholarships are provided for postgraduate training for nurses, both in the counties or districts specially served and elsewhere. In Mississippi, for example, fourteen nurses from ten different counties have already taken postgraduate work either at Vanderbilt University (with field training in Rutherford County) or at the East Harlem Nursing and Health Service in New York City. A three-day institute, open to all public health nurses in this state, and dealing particularly with maternity service, was enthusiastically received.

"Postgraduate courses have also been given during the past year at Tulane University for Mississippi physicians, and at Harvard Medical School for Massachusetts physicians. As in past years, the demand for fellowships has been much greater in the two southern states than in Massachusetts. In the South, where opportunities for contact with medical centers are fewer than in Massachusetts, there appears to be a lively interest in postgraduate experience. At Tulane, for example, the general enrollment for postgraduate medical study was considerably greater in 1933-34 than in the previous year.

"Obstetrical teaching has been carried on for the last two and one-half years in Virginia, under the joint auspices of the state medical society, the University of Virginia, and the Medical College of Virginia, with financial assistance from the Fund. No less than 626 physicians in all parts of the state enrolled for these courses, and averaged better than 76 per cent. The comment of nearly 300 physicians who answered a questionnaire on the value of the courses was overwhelmingly favorable. The plan included a series of ten lectures on practical subjects in obstetrics with ample opportunity for discussion, the consideration of such clinical material as the physicians offered, and a great number of private consultations between the instructor and individual men in their offices. On the strength of this successful experiment, the state medical society is subsidizing this year several short courses in pediatrics.

"During the coming year a similar project will be sponsored in Mississippi by the State Medical Society

(which will share the cost with the Fund), the State Board of Health, and the undergraduate and graduate medical schools of Tulane University. The clinician whose work was well received in Virginia will conduct the courses. There is every indication that this will serve as an entering wedge for continuous medical extension work in a state hitherto lacking in such facilities.

"It is not enough to help men of mature years to practice better medicine. There must be capable young men ready to take their places as the years go on. The Fund has therefore taken steps to attract promising undergraduates into rural practice and to sharpen the attention paid to preventive medicine in the regular curriculum. A group of scholarships is offered each year at Vanderbilt, Tulane, and Tufts to young men of Tennessee, Mississippi, and Massachusetts who will agree to practice in rural communities after graduation. The first quota will be ready to enter practice when they finish the internships on which they are now engaged. At Tulane and at Tufts professorships in preventive medicine, established at the Fund's expense, give promise of influencing the whole curriculum; at Vanderbilt existing facilities have been reinforced.

"In Mississippi the Fund has helped to point up state health services by measures which the commissioner, in a period of severe retrenchment, would have been unable to adopt without such aid. Thus a field unit has been developed to supervise and strengthen the technical services of all the full-time county health departments; during the year this unit has introduced a uniform system of recording which provides a framework for more consistent day-by-day performance. A state epidemiological unit, organized last year, is helping the county health departments to tighten their control of communicable disease. By providing x-ray apparatus for a new field diagnostic service, the Fund has aided the state department to make a more aggressive effort to find early cases of tuberculosis.

"In 1930 the Fund and the state jointly made it possible to reestablish full-time health service in Pike County, and to expand like service in Lauderdale County, in the hope that these two units would help to set the pace for the state. Substantial gains are already indicated by the appraisals made in each county in accordance with the standard ratings of the American Public Health Association. Pike County has seen its health program advance from a score of 147 points out of a possible 1000 in 1929 to a score of 726 for 1933. Lauderdale County, in the same interval, has climbed from 464 points to 734. These units, in other words, have reached a stage of development which is characteristic of perhaps the best ten per cent of rural health departments in the country.

"In Pike County the past year has been marked chiefly by the crystallization of public approval of the health program. Like the citizens of Fargo, North Dakota, community leaders here appreciate the prestige values of a good health department. Local appropriations have increased this year by \$1,740 or over 16 per cent, and the county looks forward to going further in this direction. 'Our Board,' writes the president of the county board of supervisors, 'has persistently increased the budget for health as the demand came. We feel that this county can afford pos-

sibly up to two mills for health of we can afford ten to fifteen mills for education.' Local funds both public and private have been forthcoming to complete several health centers begun with money allocated by the Civil Works Administration. The county believes in its health department and is proud of it.

"In Lauderdale County, where the health department has had a longer time in which to establish itself in public esteem, the appropriations from the county and the city of Meridian have increased this year by \$2,450, or nearly 12 per cent. Medical service has been set up at the privately supported tuberculosis sanatorium which serves the county. This marks a net gain in tuberculosis control, since a well-organized nursing service in the health unit and a diagnostic clinic under state auspices were already available for a well-rounded program."

STALE ANTITOXIN

At Wilkes-Barre, Pa., two days before Christmas, Daniel Holuk, 5, choked to death when a yellowish leathery membrane plugged his windpipe. Diphtheria.

George Washington choked to death in much the same way. So did Josephine, Napoleon Bonaparte's first wife. But Daniel Holuk should not have died. For in 1883-84 Edwin Klebs and Friedrich August Johannes Löffler, scientists working in a happy Germany, discovered the bacillus which produces the diphtheria toxin (poison). And in 1894, Emil von Behring, another honorable German scientist, invented an antitoxin, the injection of which causes the yellowish membrane to slough off and saves the victims of diphtheria from strangulation.

At Wilkes-Barre, Dr. Stanley Henry Rynkiewicz gave suffocating Daniel Holuk an ample dose of antitoxin in ample time to save his life. But the child died. Puzzled, Dr. Rynkiewicz studied the label on the phial in which the useless antitoxin had been packaged.

Antitoxin comes from the blood of a horse which has been inoculated with diphtheria bacilli. The antitoxin must be used within two years after it is drawn from the horse's veins. Otherwise it loses its potency. Therefore every container of antitoxin (and of every other serum or vaccine) must be cautiously labeled with an "expiration date."

The doctor detected tampering with the expiration date on the antitoxin phials which had been filled by the old, reputable Gilliland Laboratories at Marietta, Pa. Promptly he sent a warning to the State Department of Health.

January came. Governor Gifford Pinchot went out of office with his Republican henchmen. Governor George Howard Earle assumed office with his Democratic henchmen. And in the shuffling of politicians Dr. Rynkiewicz' warning received no attention.

Then a suffocating child named Tumcavag, at Luzerne, near Wilkes-Barre, failed to respond to an injection of diphtheria antitoxin made by the Gilliland Laboratories. Dr. Rynkiewicz, whom the child's baffled doctor called for consultation, angrily pushed the Gilliland antitoxin aside, used some from another biological laboratory, and saved the child's life.

Fortnight ago a State employe died of diphtheria in Harrisburg, practically under Governor Earle's nose.

He, too, had received Gilliland antitoxin.

So last week there was an investigation which disclosed that 1,101 doses of Gilliland antitoxin had expired last Sept. 1 and Dec. 1; that four samples had been retested and found potent enough to satisfy Roy G. Miller, executive of the Pennsylvania State Health Department; that upon his say-so President E. K. Tingely of Gilliland Laboratories, a veterinarian, repackaged the whole batch of old antitoxin, redated it, redistributed it to charity dispensaries all over Pennsylvania.

President Tingely and State Employe Miller, who 28 years ago worked for Dr. Tingely's Gilliland Laboratories, were arrested.

Well did Governor Earle know: "The revelations may cause some persons to fear there is danger in the use of antitoxin supplied through the Department of Health. Such fear might prevent the use of antitoxin with resultant danger of epidemic. I want to assure all Pennsylvania that this danger has been averted by quick and drastic action."

That action was the recall, by hundreds of telegrams, of every known drop of state antitoxin and authority to buy unsuspectable antitoxin at State expense.

For, said Governor Earle, speaking for Governmental officials everywhere: "Safeguarding of the public health is the most important of all Governmental functions."

Copied from February 18, 1935, issue of TIME.

On March 8, 1935, Drs. Underwood and Ricks attended a meeting in McComb of the personnel of the Pike County Health Department with Dr. Clarence L. Scamman and Frank Walker, representatives of the Commonwealth Fund. The occasion was the completion of the appraisal of the public health activities in Pike County by Drs. Scamman and Walker. Out of a possible one thousand points, Pike County now scores 816. The appraisal of the public health work in Lauderdale County, the other area in Mississippi in which the Commonwealth Fund is especially interested, and is assisting financially, showed a score of 818.

Among other good books the State Board of Health has the following books in its library. These will be lent to you for two weeks without charge if you would like to read one or more of them.

The Economy of Abundance—Stuart Chase.
American Medicine and the People's Health—Moore.

A Mind that Found Itself—Clifford W. Beers.
Evolution of Preventive Medicine—Newsholme.
Clever Country (Story of Frontier Nursing in Kentucky) Gardner

Diseases of the Eye—May.
Cancer—What Everyone Should Know About It—James A. Tobey.

Immunity—Citron.
The Conquest of Disease—Rice.
Tuberculosis Among Children—Myers.
Hookworm Diseases—Chandler.
A Doctor of 1870's and 80's—Pusey.
The Doctor in Court—Williams.



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An endowed college for women, located in the hill country of North Mississippi, seventy-five miles from Memphis. Situated on the side of beautiful "Blue Mountain," one of the highest elevations in the state.

Campus of forty acres, with huge forest trees, and springs of pure freestone water flowing about one hundred thousand gallons daily.

Two of our dormitories are conducted on the co-operative plan, whereby the students do much of the housework, thus reducing expenses considerably. We have six splendid brick buildings, three of which have been constructed recently at a cost of nearly of a third of a million dollars.

Exceptional faculty of experts trained in the best colleges, universities, and conservatories of America and Europe. Special advantages in piano, pipe organ, violin, voice culture, expression, home economics, art.

No extra tuition charge for courses in commercial subjects or in home economics.

Entrance only by graduation from accredited high school or by examination. We have no preparatory department.

Swimming pool and concrete tennis courts on the campus. College golf course adjoins the campus.

The college maintains one of the best and largest summer sessions in the state.

Write for catalogue and new booklet of campus views.

LAWRENCE T. LOWREY, PRESIDENT

THE NEW FENWICK SANITARIUM

Nervous and Mild Mental Disorders and Drug and Liquor Addictions
COVINGTON, LOUISIANA

OVER FORTY-THREE YEARS OF SUCCESSFUL OPERATION

Doctor, we wish to call your attention to the merits and claims of the above named Institution, especially for Nervous and Mild Mental Disorders—for Drug and Liquor Addictions and Infirmities of Old Age.

This Institution is true to organized medicine and its principles.

It is registered by the American Medical Association.

It is a member of the American Hospital Association.

It is a member of the State Hospital Association.

It is a member of the National Association of Private Psychiatric Hospitals.

The staff of physicians of this Institution are all members or Fellows of the American Medical Association and its subordinate societies. They are physicians, who after having graduated in medicine, have had the best of medical training in the large graduate schools of medicine and hospitals of the East and are especially prepared for their respective specialties. These physicians give their entire time to the patients in the sanitarium doing no outside work.

Its clinical and pathological laboratory is complete and under the supervision of two of the best pathologists in New Orleans.

Correct diagnosis is the key note for the New Fenwick Sanitarium—no half way, and haphazard diagnosis is made here.

The methods of examination are most thorough. Each patient is given a complete Mental, Neurological and Physical examination including all laboratory examinations. Treatment is individual for each according to indications.

The latest and best approved methods of therapy are carried out here at all times.

Hydro-therapy, physio-therapy, electro-therapy and drug-therapy are used as indicated.

The New Fenwick Sanitarium is noted for the individual attention given each patient among pleasant and home-like environments.

This Institution prides itself on the character of nourishment and diet furnished the patients, not only at meal time but otherwise.

For forty-three years it has cared for and brought back to health Mental and Nervous patients, many cases being brought to us from other Institutions.

In the last forty-three years, it has studied and treated many Liquor and Drug Addicts.

The buildings of the New Fenwick Sanitarium are new and constructed especially for the class of patients it treats. They are built of pressed brick, steel and concrete, with every comfort, electric fans, steam heat, etc. All rooms are outside rooms with good ventilation and attractively furnished. The grounds are well kept and inviting with flowers, shrubs, shade trees and rest benches.

This Institution is patronized by the better class of people. Its services are offered to the discriminating physicians for the type of patients named above as a high class Institution in every sense and meaning of the word.

It is located in Covington, Louisiana, a section so noted for its health qualities, and is easily accessible by concrete highways, railroads and water routes. It is only one hour and a half by automobile from the center of New Orleans.

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NO. 12

LET ME WALK WITH THE MAN IN THE ROAD

(THE DOCTOR'S POEM — Editor)

'Tis only a half truth the poet has sung
Of the "house by the side of the way;"
Our Master had neither a house nor a home,
But He walked with the crowd day by day.

And I think, when I read of the poet's desire,
That a house by the road would be good;
But service is found in the tenderest form
When we walk with the crowd in the road.

So I say, let me walk with the men in the road,
Let me seek out the burdens that crush;
Let me speak a kind word of good cheer to the
weak
Who are falling behind in the rush.

There are wounds to be healed, there are breaks
we must mend,
There's a cup of cold water to give;
And the man in the road by the side of his friend
Is the man who has learned to live.

Then tell me no more of the house by the road,
There is only one place I can live—
It's there with the men who are toiling along,
Who are needing the cheer I can give.

It is pleasant to live in the house by the way
And be a friend, as the poet has said;
But the Master is bidding us, "Bear ye their load,
For your rest waiteth yonder ahead."

I could not remain in the house by the road
And watch as the toilers go on;
Their faces beclouded with pain and with sin,
So burdened, their strength nearly gone.

I'll go to their side, I'll speak in good cheer,
I'll help them carry their load;
And I'll smile at the man in the house by the
way,
As I walk with the crowd in the road.

Out there in the road that goes by the house,
Where the poet is singing his song;
I'll walk and I'll work midst the heat of the day,
And I'll help falling brothers along —

Too busy to live in the house by the way,
Too happy for such an abode;
And my heart sings its praise to the Master of all,
Who is helping me serve in the road.

—Walter J. Gresham.

A Poor Scholar . . . because of a Poor Breakfast

MANY a child is scolded for dullness when he should be treated for undernourishment. In hundreds of homes a "continental" breakfast of a roll and coffee is the rule. If, day after day, a child breaks the night's fast of twelve hours on this scant fare, small wonder that he is listless, nervous, or stupid at school.

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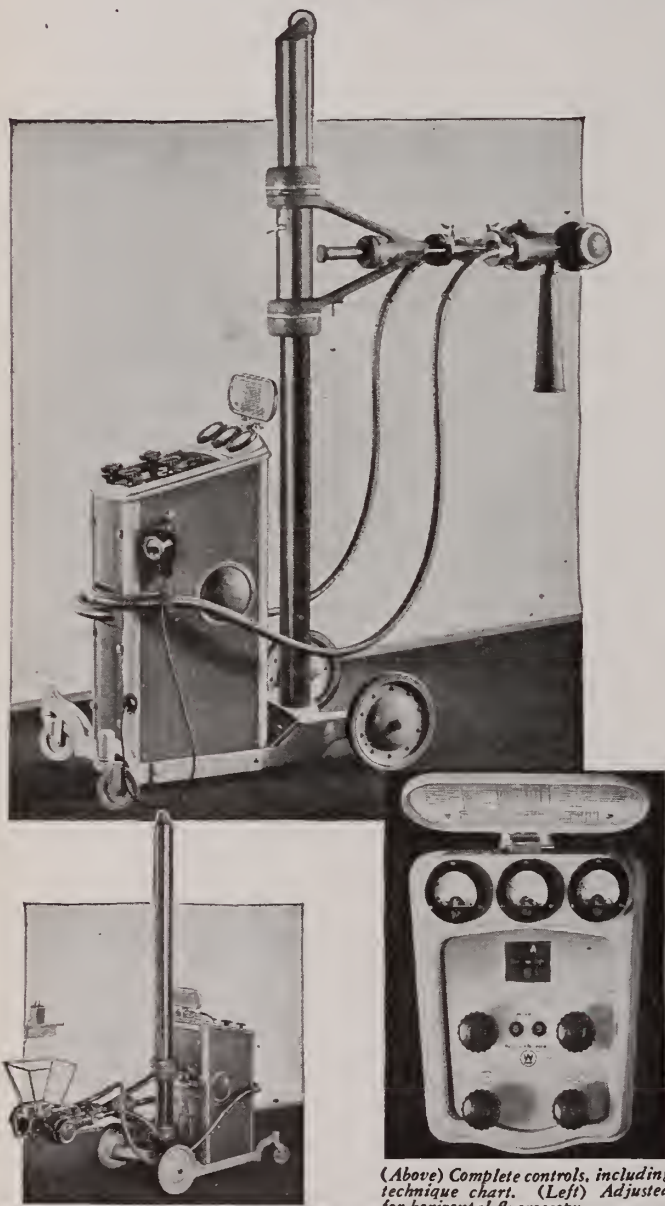
"TOMMY, that's the third time this week you haven't learned your lesson. Why don't you listen to me when I tell you how to work the problems?"

who found that tuberculous children receiving supplements of Pablum showed greater weight-gain, greater increase in hemoglobin, and higher serum-calcium values than a control group fed farina. Reprint sent on request of physicians. Mead Johnson & Company, Evansville, Ind., U.S.A. Pablum (Mead's Cereal pre-cooked) is a palatable cereal enriched with vitamin- and mineral-containing foods, consisting of wheatmeal, oatmeal, cornmeal, wheat embryo, alfalfa leaf, beef bone, brewers' yeast, and sodium chloride.

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Entered as second-class matter, January 18, 1926,
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EDITORIALS



Dr. E. C. Parker, of Gulfport, is the honored president of the Mississippi State Medical Association. He is an honor to the association. His health has not been so good. He could not visit about over the state as he would have liked to have done no doubt. But with him as president the association has moved along because it has felt so secure. He is a man of few words, but much poise and strength of character. Every word has multiplied reserve behind it. The affairs of the association have been safe in his hands. He will preside over the meeting efficiently and with dignity. What he is speaks so loud tho that you can hardly hear what he says.



Dr. V. B. Philpot, President of the Mississippi State Hospital Association. He has been an active worker for the community hospital. He has been very active in the hospital association. He is superintendent of the Houston Hospital, one of the best ordered hospitals in the state.

Mrs. Henry Boswell, of Sanitorium, is president of the Woman's Auxiliary. She will handle the association with grace, dignity, and efficiency. This organization is doing some fine work. It is the helpmate of the medical association, as the wife is of the doctor. Our cordial good wishes to the Woman's Auxiliary.

The Alabama State Medical Association met in Mobile on April 15-18. Dr. W. W. Cunningham, of Jasper, was president. In the president's chair he was easy, able, and efficient. He presided over the entire meeting, all sections, they had no sections. We have never seen a medical meeting glide through any smoother with Dr. Cunningham as pilot. Dr. Cannon is the very efficient secretary. In his address Dr. Cunningham dealt largely with fundamental problems. He took a heavy blow at fee-splitting. The scientific program was unusually good. Dr. James S. McLester, of Birmingham, President-Elect of the American Medical Association, was the outstanding speaker on Wednesday. He is a pleasing and a forceful speaker. He paid a strong tribute to the general practitioner and insisted that he was the corner stone of the medical profession. He pointed out that the general practitioner knew his patient better in all of his relations to life and is better able to treat him intelligently. Dr. Earle Conwell, of Fairfield, Ala., read one of the most helpful papers of all on fractures. Dr. Hayden, of Chicago, spoke on the work of the American Medical Association. The pictures showing different departments and the printing of the journal and all the other publications was very instructive. Seeing it you could not help but feel proud of the great work the association is doing, and with awe and admiration you realize for the first time its magnitude.

Mobile has a fine medical history. The atmosphere of the entire state is holy when you think of its illustrious men, especially of Dr. William C. Gorgas. It has many men now who are outstanding leaders in the profession. In addition to the ones mentioned and many others who could be, Drs. Seale Harris and W. W. Harper are outstanding spirits in this sister state. Mobile is a delightful city of Southern culture and hospitality. It is new and old, good and bad, progressive with a ten million investment in docks and quaint with many old buildings.

The local society was most cordial and very lavish in its entertainment.

We thank Dr. Jere Crook, of Jackson, Tenn., for a letter saying some nice things about The Mississippi Doctor. Dr. Crook's health was not so good for a year or so, but he was back at the Mid-South this time with all of his old vim and vigor—not that he is old in years. Dr. Jere knows his surgery and medicine and he knows folks and loves them. He carries the fraternal spirit. He is an orator who has but few equals in the Mid-South and no superiors. He moves the brain and the heart with equal power.

The American Medical Association should make a study and obtain the facts on "alcohol" as to its place in medicine, its relation to health, to crime, to accidental death, to mental and physical efficiency. Get the facts. Let the truth take its course. The public would appreciate this.

Students for the two year course in medicine are now being enrolled at Ole Miss for next year. This means of course that the school is certain for another session. All the requirements have not yet been met to admit it to full fellowship for an indefinite time. The enrollment for next session is going forward as a result of a conference of Dr. A. B. Butts and W. H. Smith with Dr. Fred C. Zapffe, executive Secretary of the American Association of Medical Colleges. We would like to see this two year course in medicine retained at Ole Miss and we would like to see it settled for an indefinite time. Of course we want to see this school meet the requirements if at all possible. We do not want to see too much emphasis placed on gold door knobs, fancy window shades and marble floors. Laboratory equipment and teachers are important, especially teachers of the right type. Mississippi is rich in young men and women. They are her greatest asset. This two year course gives many fine young men with a professional mind, a medical soul and a missionary heart a chance to get started in the study of medicine. We may have too many doctors, but not too many of the right type. Mississippi's fine young men will be in demand in filling the medical ranks in important places in the nation. Men in the past who have taken the two year course have stood in the front ranks any where in the world. We do not want to see this school killed because we can not supply a requirement that is not essential. Medical students need to be taught to get along with less perhaps so that they can in the rural communities where they are needed so badly when they graduate.

Dr. John Wesley Price was one of the most princely of men. His parentage were of the true nobility, merited by service to humanity. He was liberally educated, broad minded, kind hearted, patient and considerate. Do good to all men, harm to none, was his policy. He was well balanced in theory and practice. His devotion to his parents in their last days was an inspiration to any observer. His father enjoyed a large, long, and successful practice in Booneville. Dr. Wes, as his "home folks" called him, performed the first abdominal operation in Prentiss County. It was a success. He did several years successful practice. His specialty was eye, ear, nose and throat work. His ability in this field was recognized in the Mid-South for many years. For this specialty he was locted in Memphis. He was a member of the faculty of the University of Tennessee Medical College for some time. Dr. Price's health had not been good and he did but little practice for the last several years. His first wife preceded him. He is survived by his second wife and a promising young step-son, no one of his immediate family, but many relatives. He was a true and a delightful friend who was ever true, courtly and refreshing. The Mississippi Doctor offers its sincere sympathy to the ones who will miss him most.

King's Daughters' Hospital at Greenville is to have a fifty thousand dollar addition. This will be a big asset to this fine medical center and a tribute to the Mayos of Mississippi, the Gamble Brothers and the other outstanding men in the Capital City of the Delta.

The American Medical Association concludes that no one in the United States is or has suffered from the want of medical care because that a few mayors said so. Mayors do not always know. They do not always report all about their town they do know and further more a big part of our population does not live under a mayor. We have a rural medical problem that is very serious. Hundreds and thousands of people in the rural communities are suffering for the want of medical and surgical care. They are not even asking for this care because they do not have the funds to pay for it. If we only knew one half of the operations that need to be performed and one half of the people who would go for an examination if they were not put to it financially we would be astounded. The medical profession, especially in the rural communities and small towns can not do all this work without pay from some source. We might as well admit this now. Unless we face these facts, unless we meet the truth State Medicine will finally be a reality.

You will read in this issue a paper from Miss Ann Sanders, Secretary of The 13 County Nurses Association. It is a very fine one. This is a step in the right direction, the organization of this association by the nurses. The nurse is a very important part of the medical profession. It is hard to over estimate her importance. Great good will come from this society we believe. The Mississippi Doctor will be glad to have a paper from it each month. In the matter of progressive medicine in the "country," Northeast Mississippi proposes to lead the way for this little United States of ours. We congratulate the nurses on their organization. It has our best wishes.

State funds for the indigent sick should be distributed on a per capita basis to every county. If the county does not have a hospital let the sick patient go where he wishes and let the hospital bill be charged against his county. This is fair and square. It is in keeping with progressive medicine. It will help to raise the batting average of the medical profession, help to develop the little hospital which will be a medical center. It will help to decentralize the medical profession which is urgent at this time, just as important as the decentralization of industry.

Now it is proposed to train filling station men to do first aid work to help to take care of the big and rapidly growing casualty list out on the commercial firing lines in this machine age. This is all right, but much better it will be to let the small hospital in each county take care of the most of this. A nice up-to-date little hospital in each county, an ambulance, a trained nurse and a doctor on duty at all times, and some telephones along the highways. This is the way to do it.

Dr. A. E. Bostick, of Iuka, takes both oral and rectal temperature when appendicitis is suspected. A recent acute case of seven hours standing showed oral 98.2, the rectal 101, difference 2.8 degrees. Total blood count ten thousand. Appendix acutely inflamed on removal. After observing these temperatures in more than fifty cases he observes that a difference of as much as two degrees is very significant.

You owe some of your time to organized medicine on your own account and for the good of your clientele. Every doctor in the state is duty bound to attend the state association if it is possible. It meets at Biloxi on May 14, 15 and 16. The program is good. Facts about new medical truths may be learned at this meeting no doubt.

You will be glad to read The Soul of the Surgeon by Dr. Rudolph Matas. We are happy to say that we are going to run it in The Mississippi Doctor in three installments. You will see the introductory in this issue.

Mississippi should take the lead for the world in the development of small hospitals and the efficient delivery of modern medicine to rural people. A journal that is deeply interested in this service can be a great help.

Dr. McLester, President-Elect of the American Medical Association, in an address before the Alabama State expressed strong faith in the general practitioner as the backbone of the profession.

The Mississippi State Hospital Association has had six presidents, as follows: Hamilton Crawford, Wayne Alliston, Leon S. Lippincott, J. Gould Gardner, R. J. Fields and V. B. Philpot. Dr. Hugh Gamble of Greenville is the incoming president.

The principle of insurance for the hospital care of the sick is not bad. It means that the man who keeps well helps to pay for the unfortunate one who gets sick.

The nurses of the Northeast Mississippi 13 County Medical Society have organized an association. We expect to publish a paper from them regularly. We congratulate them on this progressive move.

If you would like to have a picture of your hospital and a write up appear in The Mississippi Doctor send your cut and the information. The space in the journal will not cost you anything.

The general practitioner of medicine and surgery should be the corner stone of the medical profession and should treat eighty-five per cent of the sick.

It is well to know what your blood count is when you are well, so that it may be more helpful to you when you are suspected of appendicitis.

Periodical examinations are important to patient and to doctor alike. It enables the doctor to practice preventive medicine and the patient to save time, money and suffering.

Politics has no place in the distribution of funds for the indigent sick.

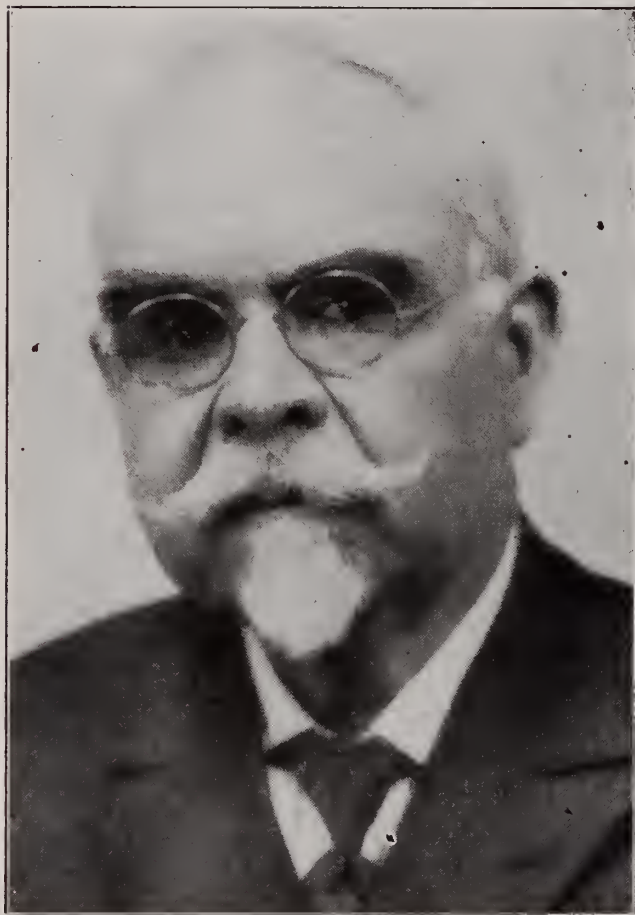
It is well to know the blood pressure of the expectant mother before she is expecting.

The Memphis Medical School is well balanced between the practical and the theoretical.

This is a day of medical problems, and the medical journal that does not discuss them freely is failing to perform one of its most important functions.

Speaking of clever doctors, you find many of them in Arkansas.

The Southern Railway Surgeons will meet this year in Washington, D. C. the middle of June.



Dr. Rudolph Matas, of New Orleans, a citizen of the world. Born in Louisiana Sept. 12, 1860, the only son of Dr. Hereu Matas, a native of Gerona, Spain. At two years of age he was carried to Spain. He was educated at the Ecoles Enfants of Paris, primary schools in Barcelona, Spain, and Brownsville, Tex. Soule's College, New Orleans, and the Literary Institute of St. John, Matamoros, Mexico where he was graduated in 1876. He entered Tulane in 1877, graduated at the Charity Hospital in 1880. He was medical clerk to the yellow fever commission in Havana, medical inspector on national board of health at Vicksburg for some time; editor of New Orleans Medical and Surgical Journal from 1883-85. Held the chair of Surgery in Tulane from 1894 to 1927. President of the Louisiana State Medical Association in 1894-95; American Medical Association 1920; American College of Surgeons 1924-25. He is distinguished for his work on vascular surgery, aneurysm in particular; spinal and regional anesthesia; anatomic dissections in surgery; and application of hypodermoclasts and

venoclasts. These are a few of the peaks, the high points in the life and the work of Dr. Matas.

These are only a grain of sand in his total assets. His store-house of accurate information on multiplied subjects set him apart as one person. In the art of living, his volume of life, his ability in sustained effort, his good health and mental vigor as he stands upon seventy-five years of such ponderous activity warrant him the Nobel prize over his world contemporaries in this the greatest of all human accomplishments. His radio-active personality emanating devotion to and dignity in professional duty, human love, sincere friendship, courtly consideration for others, inspire any who come in contact with him to greater and more noble efforts, and even charge the atmosphere around the earth for any who are attuned to receive such inspiration.

We would not discount the glory and honor merited by Osler, Keen, Deaver, Murphry, Oschner, Gorgas, and Franklin Martin; we would not underestimate the just distinction that is and is to be the Mayos, Erdman, Kelley, Evans et al. But when all the assets are added that fashion a man after the Master of Men we believe that Dr. Rudolph Matas must be accorded the deanship of American medicine. He is really at this time Dean of the Medical world.

In 1915 he delivered an address before the Mississippi State Medical Association. His subject was the "Soul of the Surgeon." Chairman J. W. Lipscomb of Columbus has the following to say of him at this time.

Chairman Lipscomb, before the Mississippi State Medical Association, in May, 1915, in introducing the orator of that occasion, said feelingly: "The foremost man in the foremost college in this great Southland of ours, the Nestor of our brilliant and gifted profession, he needs no introduction. We have but to mention his name and his contemporaries throughout the United States stand at attention. Someone has said that, to be an ideal doctor, we must possess the wisdom of Solomon, the faith of Abraham, the meekness of Moses, the patience of Job, the charity of Dorcas, the eloquence of St. Paul, the bravery of Joshua, the strength of Samson, the executive ability of a Jezebel, must be a hunter like Nimrod, a fisher like Peter, a climber like Zaccheus, a driver like Jehu. He should be free of Asa's gout, the melancholy of Saul, the gastric infelicity of Timothy; have all the virtues of the most virtuous and the religion of all saints. All of these are his. And now, Ladies and Gentlemen, I have the distinguished honor, the esteemed privilege and the great personal pleasure of introducing to you Dr. Rudolph Matas, of New Orleans, who will deliver the oration."

In the June, July and August issues of The Mississippi Doctor we will on the consent of Dr. Matas and because of the constant calls for it publish this address and will at the end of this time have it in book form.—Ed.

DR. SEALE HARRIS

Gastro-intestinal and Nutritional Diseases
Diagnostician

2234 Highland Avenue
Birmingham, Alabama

Ocular Manifestations of General Diseases



BEN WITT KEY, M.D.
New York, N. Y.

Since the development of bacteriology, physiologic chemistry and anesthesia, the science of medicine has grown to such extreme dimensions, that the preparatory study of it now consumes years of endeavor. Our medical schools are finding it very difficult to crowd into the four years, required, all the courses of instruction, lectures and demonstrations absolutely necessary for even a college preparation. And so too

has this growth of medicine affected the modern practice of it. Not many years ago, we all recall our profession in the city consisting of a number of general practitioners, and we have recently lost in New York a noted physician, Dr. Jacobi, who always resented being called a specialist in pediatrics, and who claimed that he had always been and always professed to be a general practitioner of medicine. And yet conditions must change with the change in larger environment, and today we note that some are confining their study to certain branches, are shifting to more particular and limited fields of medicine, and others, in their education and hospital services, are endeavoring to prepare for special practice by concentrated effort upon a single subject chosen for the opportunity it may offer and for their own adaptability to it. And it is through this process of change that there has arisen during recent years two methods or systems of practice. In the West and Southwest it is known as "group practice," whereas in other localities the effort is being made at "cooperative medicine." It is quite obvious to you what this must mean to the patient, the community and to the profession. "Group study" is of course essential and can be the only scientific means of approaching the problem of ophthalmic research, as Dr. Park Lewis so ably presented at a meeting of the American Medical Association. But undoubtedly cooperative medicine is the ideal system of practice and it is becoming more and more popular the broader (or narrower?) the special fields become. In fact this is the day of cooperative medicine, and if one is really aware of the trend of the times, he knows that it is being demanded of the profession by the public at large. One who resists such a definite trend for the good of his patients and his community, and the advance-

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ment of his profession, is an obstructionist, and his days are numbered. The study of medicine has already reached such proportions that no man can presume to attain, even through constant effort, a familiar understanding sufficiently clear and profound, that he can alone administer to the general sick. And the average layman is no longer so credulous and ignorant of these things as in the past, nor is he so impressed by the wise assumption and deep, affected voice of his adviser, but rather does he seek the truth as to his ailment, the limitations of his physician's experience and knowledge, and above all does he seek that confidence which is expressed by a frank desire to cooperate and consult with others for the benefit of his condition.

Under such changing conditions of medical practice the value of correlated study is obvious to any one. And so it is fitting that we must, now and then stop and look about, into the past and at the present, and take stock, as it were, of what has come to pass in special lines of medical work, that we may get our balance and maintain a position of investigation or criticism by attempting to separate the facts from fancy, the truth from theory, the esse of things, not their percipi, but their intelligi.

It is quite apparent that in presenting to you a correlated study of ocular and systemic conditions, time will permit that I recall to some of you and point out to others of you, only the most frequently met with of these related conditions, those of most importance, and those of more recent analysis and study.

Therefore may I suggest the following simple outline as a means of separating and clarifying the situation for the purpose of a more systematic understanding of it.

The ocular manifestation of diseases of:

1. The air-passages.
2. Gastro-intestinal tract.
3. Blood and hematopoietic system.
4. Organs of internal secretion.
5. Cardio-vascular system.
6. Nervous system.
7. Acute infections.
8. Focal infections.
9. Diathetic conditions.
10. Those related to the habits, circumstances and environment of life.

Those conditions of the air-passages (nose, sinus, larynx and lung) to which the eye is related as part of the symptom complex of the particular disease, or as the result of a neglected condition or disease, or following upon an operative procedure, if fully related and in detail, would in itself consume the entire time allotted me. It is pertinent therefore, that I mention only a few of them. The well known acute catarrhal conjunctivitis as an extension of an acute rhinitis is certainly badly treated when the nasal condition is neglected, and frequently under poor conditions of health and environment and after repeated attacks, becomes a chronic process quite difficult to deal with. Chronic nasal catarrh invariably sooner or later affects the lacrymal passages and conjunctiva, when thickening of the mucus membrane simulates trachoma and a neglected case without proper nasal treatment, irrigation of the lacrymal passages, et cetera, is beyond relief. Engorged and hypertrophied

turbinate may be responsible for lacrymal obstruction and thereby indirectly cause dacryocystitis, a factor constantly over-looked by the oculist, though he is perfectly familiar with this relationship.

Sinus infection often proves destructive to the eye when orbital cellulitis and phlegmon arises, or when post-bulbar neuritis by contact is neglected, or optic nerve atrophy from interruption of conduction is the result of pressure. The vacuum frontal of Sluder and Ewing, the identity of which is questioned by many rhinologists, when present, may curiously enough produce ocular symptoms during the act of convergence that simulates very closely those of eye-strain. Hyperplastic sphenoiditis deserves more careful study by both oculist and oto-laryngologist, for only through such cooperation can the truth be learned of this very striking and highly important relationship. Especially is this true when we are aware of those mysterious ocular conditions which appear out of a clear sky and apparently without cause, such as optic neuritis, choked disc, choroiditis, uveitis, optic atrophy, pupillary disturbances, vascular disturbances, transitory blindness, scotoma scintillans, ophthalmic migraine and ophthalmoplegia, not to mention numerous ocular and head symptoms that have been attributed to this and other types of sphenoidal involvement. A warning note, however, must be sounded here, because of the well known symptom of recurring nasal congestion (so-called obstruction) so commonly observed in women during the menopause time, when this condition is merely a normal expression of the nervous state through which they are passing, and this together with other nervous symptoms of this period of life, makes them apprehensive and symptom sensitive. These cases of recurring nasal obstruction are often misinterpreted and as frequently are subjected to needless operative procedures.

As to hay fever and asthma, the great volume of literature that has been published is both exhaustive and exhausting! Its great importance, however, and the valuable results of this research are generally recognized. This is especially true since most infections have been shown to express themselves in the body economy by a state of hypersensitivity—a bacterial protein reaction that is usually ectodermic, in the mucus membranes or in the skin. But this allergic reaction is not limited to those due to protein agents and to pollens, but also to bacteria and other toxic agents, either by inhalation, by contact materials, or by food ingestion, or by other chemical reaction. The allergic reactions, although quite mysterious to those of us not familiar with them, have become very positively recognized, and represent valuable chapters in medical practice of today. The recent researches of I. C. Walker, M. Ramirez, Ratner, Coca, Bray, Cook, Hurst, and many others in this field are so monumental in scope and of such value in practice, that we cannot pass without mention of them. In sharp contrast to these researches, but

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quite as important in every detail, are those made by direct bronchoscopy, as heralded by Chevalier Jackson. His paper entitled "All that Wheezes is not Asthma"! is explanation enough. In this he shows many patients, for years suffering and being treated for asthma, in whom an x-ray revealed a foreign body in the bronchus, and prompt removal of it affected a complete cure.

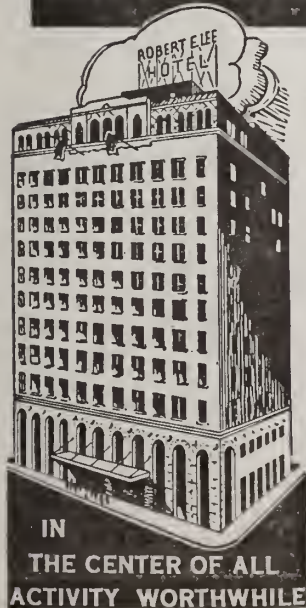
Indirectly through pharyngeal infection, internal ear suppuration progressing to mastoid cell involvement, presents many important ocular manifestations. Among these may be mentioned the familiar papillitis of meningeal involvement, disturbance in the ocular circulation, and paralysis of the rectus externus from the effect of pressure and infection by contact with the sixth nerve in its foramen and groove in the petrous portion of the bone.

The gastro-intestinal system has been held accountable for numerous ocular conditions well known to the profession. But just how and for what period of time present, under what conditions and what particular variety and combination of food-stuffs are capable of acting in the particular individual in order to produce these conditions, directly or indirectly, still remains a problem before us so uncertain that for me to approach the subject is to feel at once a temerity and ignorance that I hesitate to admit. No less than three papers on this relation to ocular conditions were presented at a recent meeting of the Ophthalmic Section of the American Medical Association, and all of these were scarcely tangent to the subject, so

superficially did they seem to penetrate the truth of this matter. And yet it almost approaches the mysterious to think of the variation in the chemistry of the body in different individuals. One individual will thrive on a preponderance of sugars, another on proteid, another on fats, while any one of these in a particular economy may act to entirely upset normal digestive processes, and especially sweets and proteids may produce a violent toxæmia and related glandular disturbances. These observations have led to the study of ingested proteins, vegetable and organic acids, stomach contents, bacterial content and chemistry of the stool, 72 hour series of X-ray and fleuroscopy of the gastro-intestinal tract, Rehfuß' method of stomach and duodenal lavage for testing the actual process, rapidity and completeness of the digestive act. From what has been revealed to date it would seem that the ingestion of certain food-stuffs must seek a normal balance, as it were, in the particular economy, dependent upon protective, nutritive, neutralizing and excretory functions of the glands, and these dependent upon the age, habits, circumstances and environment of life, in order to maintain a normal, healthy state. The complexity of these facts is baffling to those of us in other lines of medical work. But we must confine our clinical study at present to certain distinctive types. First, The undernourished, in which in maturity and the aged we note early changes in the retina, so-called early senile degeneration of the macula; also we note cataractous lens changes of mature life due to numerous con-

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ditions of diet, cumulative in effect, all the result of improper or insufficient nourishment of the lens. This is well illustrated by the occurrence of cataract in almost all mature individuals in India and said to be due fundamentally to insufficient nourishment.

Second, the over-nourished type in which the effect upon the eye is usually indirect, via the liver, kidneys and blood-vessels, and we note principally vascular disturbances of the fundus of the eye and albuminuric retinitis.

The third type is that of the improperly nourished and in this class a great variety of conditions demand our attention. In cases of chronic constipation and the forms of toxæmia that manifest themselves, it is becoming popular to attempt to change by numerous means the chemical and bacterial flora of the intestine in order that proper digestion may take place and the toxæmia thereby eliminated. The implantation of the colon bacillus by enteroclysis after rendering the lower bowel alkaline at one time met with considerable favor. Its real value, however, has been questioned and is now a matter of debate. Similar means are being employed in the upper bowel by duodenal lavage and by the use of alkaline waters. It is well known that continued intestinal toxæmia, and chronic constipation leads principally to disease of the uvea, either of the anterior or posterior type, and the effect upon cases of glaucoma is an accepted fact, even to the extent that it may be a factor important in the causation of the disease. Gout affects the conjunctiva, iris and choroid; and botulism may cause pupillary disturbances, hemorrhagic conditions, ptosis, and extrinsic muscle paralysis. The protein test for specific food sensitivity is one of the most valuable aids in the study of many ocular symptoms, and when positive will frequently clear up very difficult problems of diagnosis and treatment. Most important of these are eczema of the lids, puffiness of the lids, angio-neurotic oedema, recurrent episcleritis, phlyctenular conjunctivitis, and numerous others of toxic origin.

The fourth type of intestinal condition closely related to ocular changes is that of the poisons, these including alcohol, tobacco, lead, arsenic, Salvarsan, quinin, wood-alcohol, and others. Salvarsan is included here because it is an arsenic derivative and although not administered by mouth is said to have a similar effect upon the eye, at times, as does poisonous doses of arsenic, atoxyl and other arsenic preparations. May I state here that I have never seen a case in which I felt sure the eye had been seriously affected by Salvarsan. I believe the idea of the specific toxic effect of Salvarsan on the ocular fundus arose through improper dosage early in the administration of the drug. In 1909, I published in the University of Pennsylvania Bulletin the results of a series of experiments in animals from the injection of atoxyl, and though I found varying effects with the same dosage, no destructive ocular effect was noted except from toxic doses. Furthermore, and much to the contrary, I have observed numerous curative effects of Salvarsan upon disease of the ocular fundus. Wood-alcohol (methyl) poisoning has engaged the attention of the oculists in New York to an unusual degree and for many years. This was especially true when prohibition was enacted, and the so-called "white snops" was used more freely. You are prob-

ably aware of the absence of any clinical sign of wood-alcohol poisoning in the acute stage of optic neuritis (because the neuritis is post-bulbar), then a congestion of the nerve-head appears, followed by a pallor of the temporal half of the papilla, and in the course of one to two weeks general pallor and atrophy follows. It is well known that when complete blindness is produced, the poison is usually fatal, "ad vitam as well as ad visam" (de Schweinitz).

As for those conditions of the blood and hematopoietic systems which affect the eye, we may mention here, syphilis, the anaemias, (especially pernicious anemia), and malaria. (the septecemias and pyemias being reserved under infection). Only malaria of the severest types cause ocular complications, these being keratitis (Kipp), optic neuritis, retinal hemorrhages (Jones), chorio-retinitis, and cataract (Cosmettos, Terson). Retinal hemorrhages and oedema of the retina in pernicious anemia is quite common, but except for an anemic conjunctiva, sclerotic and retina, ocular disturbances are relatively rare in the other forms of anemia and leukemia. Related ocular and systemic syphilis is such a large field and so commonly the subject of discussion in society meetings, that it need not be enlarged upon in this paper. But I cannot pass from this subject without calling your attention to the fact, that the ocular manifestation of syphilis is often the earliest and sometimes the only clinical evidence recognizable, that it is characteristic of the type, virulence and disposition of the disease, and is often the barometer, as it were, of the course and prognosis in many cases. A glance at the different types will show, that only in the primary stage of the disease is the ocular relationship unimportant. In the secondary stage there may be no ocular evidence, but it is frequently of great clinical significance when other symptoms are mild. In congenital syphilis, it may be the only outstanding symptom, and this remains throughout life in the form of deep vascular tracts in the cornea, though the cornea may become lustrous and transparent as before, other signs absolutely hidden beyond recognition. Sooner or later in this disease we know that unmistakable ocular symptoms will appear, and in the tertiary stage, pupillary disturbances, loss of accommodation, extrinsic muscle paralysis, iritis, choroiditis, neuritis, atrophy of the iris and of the nerve, will indicate the course and progress of the disease. Curiously as it may seem, choroiditis is almost invariably associated with oncoming cerebral syphilis, whereas atrophy of the optic nerve is significant of the preponderance of spinal involvement (tabes). Unilateral mydriasis without iris reaction is almost pathognomonic of the disease. More accurate and delicate means of measuring pupillary disturbances, loss of accommodation, muscle paralysis, oncoming optic neuritis and atrophy, have been devised during the last fifteen years, which give the oculist of today the opportunity of an earlier and keener recognition of

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this disease, and therefore places upon him the responsibility for correctly diagnosing and accurately observing the course and prognosis of these cases.

The organs of internal secretion bear an extremely interesting relationship to ocular conditions, and in fact recent research in this regard bids fair to be of the most illuminating character. The perversion of function of the thyroid gland, probably through sympathetic influence in the production of exophthalmos, is a well known clinical syndrome, also the ocular manifestations of myxedema and cretinism are familiar symptom relationships. But may I ask here, how many of us, clinicians and oculists, recognize the early or mild symptoms, even the more advanced types, before the condition has progressed to a most distressing and obvious stage of the disease? It is this that is of most importance, for we are well aware that an early diagnosis may mean a satisfactory therapeutic result, while the contrary can only be expected from delay and an advanced symptom complex with definite organic change. The oculist sees these cases early in the involvement, the patient usually complaining of nervous symptoms, unnatural irritability, slight attacks of trembling, hypersensitiveness to the slightest opposition, exaggerated tendencies of mind and body, unnecessary haste in the simplest act, unavoidable display at energy; these together with the very slightest suggestion of Dairymple's sign, periodic oedema of the lids, and the complaint of an occasional drawing sensation (similar to that of eye-strain), is a train of symptoms that I am sure is familiar to all of us, and we recognize studies of the ductless glands have gone so far as

to classify clinically all individuals into one or more representative classes, each characteristic of the effect of either a hyper or hypo thyroid, pituitary, adrenal or thymus secretion. Each of these types have fairly characteristic ocular signs, one of them said to be quite constant and trustworthy, is the "eye-brow sign" of de Rothschild, i.e., the scarcity of hair in the eye-brows, with a marked diminution of the outer third of each eye-brow, and observed in cases of thyroid deficiency.

The perversion of pituitary secretion with enlargement of the glandular substance, hypophyseal hyperplasia, also that mysterious tendency of the gland and its neighboring structures to the development of cysts and different kinds of neoplasms, expresses itself first quite constantly and consistently by the ocular symptom of hemianopsia, usually bi-temporal, or variations of this, or slowly progressing unilateral atrophy beginning with temporal hemianopsia, the result of interruption of conduction from pressure anterior to the chiasm. Treatment of these conditions has been most varied, due of course to mistakes in diagnosis and to misunderstanding of the glandular functions and related glandular effects. Surgical interference, X-ray, radium and glandular preparations, besides remedies to control symptoms, constitute the principal treatment in these conditions. May I relate briefly my own experience in respect to the use of obstetrical pituitrin in a case of pituitary disturbance diagnosed as tumor of the hypophysis by three eminent X-ray men of New York and Philadelphia, and which showed a biteniporal hemianopsia and almost complete blindness in one

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eye occurring over a period of one year before she first consulted me. Operation was regarded then as the only treatment to be administered, when it was decided to try the extract of the gland as the last resort. One ampule of obstetrical pituitrin was injected each day, when to our surprise improvement was noted with almost every other injection. At the end of a month's time the hemianopsia in the lower part of both fields had diminished, and vision in the right eye had improved from 20/30 to 20/13; left eye from fingers at five feet to 20/25 minus three letters. This vision was maintained for two years, and with little variation in the fields of vision during this time; the right nerve-head of course remained pale in its temporal half, while the left disc generally whitish with corresponding diminished capillarity. Two other interesting features of this case were, that this patient, the mother of six living and healthy children was 48 years old, the time of her menopause, and that since receiving these injections of pituitrin, she had been entirely free of asthma and hay fever from which she had suffered each year for the past fifteen years. Is not this case truly an interesting study in internal secretion? Since observing this case I have had occasion to learn of other cases similarly affected and in like manner relieved.

The cardio-vascular system presents numerous related ocular conditions. These are, in every instance, the result of some change in the normal mechanism of heart action on the one hand and vessel resistance on the other. In no other part of the body is there so complete a picture of these changes as that found in the ocular fundus. The sphygmomanometer, the sphygmograph, sphygmotonometer and the stethoscope are all valuable means of diagnosing and studying these conditions, but each of these gives only a temporary reading or indication of a condition which may be entirely changed in twelve to twenty-four hours. The fundus picture on the other hand is a chart of previous cardio-vascular disturbances and irregularity as well as of present effects, and especially is this true in incipient types of cases. For example you are of course quite familiar with the variations in blood pressure in the same individual, and know that although the recording of it every morning for a week may give only slight variations, it may show a decided change by afternoon or evening, and therefore the morning records may be not at all indicative of the true heart action and vascular tone of such a case. The fundus picture, however, records the positive effects of cumulative and present irregularity. The ocular manifestations may be briefly classified into, 1st. hemorrhage, either sub-conjunctival, retinal or sub-hyaloid; 2nd. thrombosis of the central retinal vein; 3rd. embolism of the central retinal artery; and 4th. arterio-sclerotic changes; all of which are of such importance and significance that the family physician of a patient thus affected should be notified at once. In order to impress this point, I wish to numerate the well-known stages of fundus change in arterio-sclerosis, which are so frequently disregarded by the internist and even by the oculist as being of too much detail to demand his time and careful consideration. I wish to insist that these changes are important, are definite and are not at all difficult to detect and interpret. Briefly they are as follows, 1st. stage, consists

of a straightening of the medial arteries, a fullness and tortuosity of the medium veins; 2nd stage, more exaggerated first stage, plus a kinking of the veins at points of crossing of an artery; 3rd, attenuation of arteries and veins, increased distinctness of the light-streak, flattening and exaggerated kinks of veins at artery crossings; 4th stage, loss of translucency and sheathing of the arteries, alternate contractions and dilatation of the veins with ampulliform venous dilatation at the distal side of the artery in contact, fine whitish stripes along vessel walls, partly formed cork-screw capillaries; 5th stage, areas of retinal oedema, small splashes and drop-like forms of retinal hemorrhage, well defined cork-screw capillaries, beaded arteries, obliteration and white-cord appearance of veins. My feeling is, that the oculist who fails to note and study these fine details of change in an arterio-sclerotic fundus and fails to appreciate the mechanics and pathology of each stage of it, is unworthy of the name of specialist. Arterio-sclerosis, furthermore, is recognized as one of the fundamental causes of glaucoma simplex and of fulminating glaucoma. The treatment of all primary glaucoma is always insufficient and frequently useless, where the cardio-vascular tone of the patient is neglected.

The intimate relationship of the nervous system to ocular conditions needs no introduction whatever, since the eye itself is the expanded end of a large nerve highly specialized for the performance of the visual function. In almost all diseases of the nervous system it is obvious that the oculist is constantly dependent upon his medical advisers, and they likewise dependent upon him. Neuresthenia is a term that has greatly contracted in meaning during the past fifteen years, and this is due of course to the correlated study of clinical medicine and a clearer understanding of neuro-pathology. The hysterias, neuroses, chorea, epilepsy, bulbar paralysis, myasthenia gravis, multiple sclerosis, tabes, et cetera, are all correlated studies, and particularly so in the beginning and incipient stages of these affections. Every case of herpes zoster ophthalmicus, coma, encephalitis, chorea, severe head injury, headache, vertigo and migraine, is a challenge to the ophthalmologist to eliminate an ocular element in the etiology, diagnosis, management and treatment of the condition. In coma, if due to organic brain disease, there may be deviation of the eyes, choked disc, dilated pupils; if intracranial pressure is increased, there may be dilated pupils, choked disc, clonic conjugate deviation; if from cerebral hemorrhage, miosis, inequality of pupils, conjugate deviation; if from uremia, albuminuric retinitis; if from narcotic poisoning, extreme equal miosis; if from atropin or hyoscyamin, pupils are widely dilated. In severe head injuries with rapidly increasing intracranial pressure, a choked disc is frequently the indication for a trephining.

The relationship of the general nervous system to the delicate nervous mechanism of ocular accommodation

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tion expresses itself in numerous ways through the correction of errors of refraction. Headache, vertigo, migraine, habit chorea, general restlessness, stupidity, nausea, hysteria, simple tic, general inefficiency and many other nervous symptoms and conditions are frequently due to an error of refraction, and may be relieved by the correction of it. This is no fable. It is soundly medical, and I wish that I might go more deeply into this most important nervous relationship, for it is a well known fact that innumerable cases every day are referred by the medical profession to opticians and commercial houses for glasses, whereas, mind you, the therapeutic effect of ciliary rest in the form of a suitable correction in spectacles is just as truly a medical remedy as is calomel or the appendectomy.

That strange nervous affection, encephalitis lithargica, which occurred in this country in the early part of 1919, has engaged the attention of our profession and stimulated researches more extreme in detail than any other disease since that time. In Austria it was first attributed to sausage poisoning, and in England to botulism from various foods. These conclusions as to etiology arose probably from distressing food conditions in these countries during the war and because the general symptoms (due to involvement of the central nervous system) and paralysis of the third nerve early in the disease simulate somewhat those of botulism. Its pathology has now become well known. It involves particularly the brain, especially the grey matter at the base of the brain; however, any part of the grey matter may be affected, lesions being found in the cortex and in the

cerebellum. The structures most constantly and particularly affected are those about the third ventricle, the aqueduct of Sylvius, the lateral ventricle and optic thalamus, the pons and medulla. The spinal cord also may be involved. Histologically, Simon Flexner's studies and description of the lesions still hold true in this regard. Clinically, the symptoms are those referable to the areas of involvement, principally disturbances in the function of the central nervous system. Mac Nalty distinguishes six clinical groups. 1st. cases with general symptoms and without localizing signs; 2nd. third nerve paralysis and central nervous symptoms; 3rd. facial paralysis and central nervous symptoms; 4th. spinal manifestations and central nervous symptoms; 6th. mild or transient manifestations (so-called "abortive" cases). Among the earliest symptoms to appear are diplopia and ptosis (third nerve paralysis) with varying degrees of lethargy, the outstanding feature being the lethargy which is progressive in character and present in about 80 per cent, possibly all cases. Other symptoms varying in severity are drowsiness, vertigo, tinnitus, muscular weakness, blurred or misty vision, diplopia, photophobia, tremors and twitchings, ataxia, delirium, irritability, mental depression, difficulty in articulation and swallowing, loss of sense of smell and taste, and many others of less importance. I have had the privilege of studying many of these cases, and I shall never forget them. The diagnosis cannot be made without a correlated study, for it is at once apparent that the symptoms are numerous, come on insidiously and simulate so many other more common and familiar disease conditions. This is

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especially true in those cases where the lethargy is not at first marked, and the patient's chief complaint is only an ocular disturbance. In the advanced stages the diagnosis of course may be more easily differentiated.

The ocular manifestations of acute infections are quite familiar to all of you. In almost every instance the ocular change is merely a clinical symptom of the infection, either directly or indirectly affected. Those more closely related are whooping cough, diphtheria, erysipelas, measles, chicken-pox, small-pox, scarlet and typhoid fever. The infection of gonorrhea is well known in its ocular relationship, but with one exception, and that is, the metastatic form of involvement of the eye. That there is a definite gonorrheal metastatic conjunctivitis is becoming more and more recognizable, and presents itself as does gonorrheal iritis, cyclitis and choroiditis usually during an acute exacerbation of a sub-acute or chronic posterior urethritis. The symptoms are, a slight sero-mucus stringy discharge from the cul-de-sacs, with a low-grade sub-acute thickening of the conjunctiva especially in the transitional folds of the fornix (entirely unlike that of direct infection). It is amenable to treatment of simple persistent cleansing measures, but especially so to the vigorous treatment of the urethra and deeper structures in the part of the urologist. Metastatic gonorrheal iritis and choroiditis react quite definitely to gonorrheal vaccine (Schefflin's), yielding in a remarkably short time where the urethral tract is also properly treated. I have had occasion to study a number of these ocular metastatic conditions, and I feel that I can recommend the use of the vaccine as being a valuable adjunct in the treatment. The infection of influenza produces very definite ocular changes varying from the almost constant mild conjunctivitis to mild episcleritis and iritis, retinitis of a mild or severe type, and frequently a low-grade post-optic neuritis manifested by the familiar symptom of soreness back of the eyes on extreme rotation in any direction.

During the past fifteen years, correlated medicine has brought to the front an important etiologic factor in general diseases and local pathologic changes, from focal purulent involvement of some adjacent or remote part of the body—foci of infection. The study of this relationship has almost buried some of our previous notions about so-called rheumatism, neuralgia, neuritis, myalgia and other vague and unexplained symptoms. It is now more clearly recognized that bacterial toxins (sometimes bacteria themselves) by a selective action, or through certain lymphatics and blood passages may affect a local process, or some over-used or defective part, with the production of destructive pathologic changes. Since this has been quite definitely established, it has become imperative, in various conditions of health, to seek the location of the offending focus. These locations have been attributed to the appendix, tonsils, teeth, sinuses, ear, gall-bladder, intestinal tract, pelvis, bony epiphyses, prostate, etc., in fact any part which may harbor an active infection. The ocular relationship to these foci of infection is known to be of the utmost importance, because the eye-ball principally lymphatic in structure, and highly sensitive to abnormal changes, is a veritable culture tube for toxic and bacterial effects, and therefore is frequently the barometer which expresses the presence of a focus hitherto unknown to

both the patient and the physician. These focal infections have been found to cause recurrent episcleritis, iritis, choroiditis and retinitis, in a manner quite unaccounted for by other causes. It is quite probable that there may be here an explanation for the development of certain types of glaucoma, since it is well known that hypertension is frequently associated with disease of the uvea. Recent studies into the causative factors of sympathetic ophthalmia bear out the fact that there is present a focus of infection in the gastro-intestinal tract or elsewhere, which may be responsible for the effect upon the sympathizing eye, in producing a plastic uveitis of the sympathetic type. The unfolding of the roll played by focal infections in disease has, however, already taken hold upon the profession to a degree that too many conditions and sources of disease are being attributed to it than is conservative and wise to admit. The pendulum of opinion in this direction is already swinging far beyond constructive limits, and now and again we are acquainted with cases of vague or obscure diagnosis, where tonsils, teeth, appendix, sinuses and other things had all been explored or removed, and the malady complained of was becoming progressively worse. We must not be unmindful of the cardiac factor, the elements of age, habits and environment of life in many of these cases thought to be due to focal infection. Experimental and clinical study of focal infections has become so intense and yet so general, that unless one guards against the extremes of the purely theoretical on the one hand, and the superficially apparent on the other, ones balance of thought is apt to point in a mistaken direction. I believe our attitude should be, to lean always toward the theoretical, because in this tendency there is imagination, correlation and experimentation and the results of these is progress. In the study of focal infections, certain questions present themselves. 1st, what is the frequency of this toxin effect; 2nd, what is the relative importance of toxin action against the natural resistance of the individual; 3rd, what is the importance of toxin treatment, whereas we have definite means of elimination, stimulation and increasing nutrition, as well as means of regulating the diet, habits and environment of the individual; 4th, how far are we justified in insisting upon the removal of a man's teeth, or some other such radical operation? To summarize these questions—does the frequency, normal relative resistance, ordinary methods of combating any toxemia, either autogenous or exogenous, justify the means, that is, some radical treatment or operation? My answer is, yes; that we are justified, where we are reasonably certain of the cause and effect in the particular case, through elimination by our known laboratory and clinical tests. My answer is also, no; that we are not justified where the focal infection is of minor importance and the habits, circumstances and environment of life are of greater importance; 2nd, we are not justified where there is a more commonly acknowledged cause than that of

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focal infection to explain the ocular defect; and 3rd. where simple therapeutic measures are satisfactory in the particular case.

Diathetic conditions such as gout (lithemic diathesis), rickets, scurvy, and diabetes mellitus are familiar diseases with quite well known ocular effects. Besides the fundus changes of retinitis and neuritis, and also cataract, so commonly produced by diabetes, an interesting relationship often over-looked even by the oculist is the change in the refractive error so frequently associated with this disease. Myopia is known to thrive on a diabetic diathesis—may be transient—developing as rapidly as in five to ten days (Hirschberg, Risley), and explained by the chemical change in the index of refraction of the media of the eye. Hypermetropia, on the other hand, may also be increased rapidly, and treatment of the diabetes reduces it by as great a degree as two dioptres (Horner, Jackson, Groenow, Lundsgaard). A number of theories are advanced to explain the phenomena. Astigmatic changes occur, suddenly developing, and varying markedly from time to time with the progress or improvement in the sugar content of the blood. Premature presbyopia, subnormal accommodation in diabetes is reported by de Schweinitz.

And finally, a discussion of ocular relations to systemic conditions would be very incomplete should those related to the habits, circumstances and environment of life be excluded. Because of our every day familiarity with these common habits of life, they are less apt to be taken into account in the study of systemic as well as ocular disturbances, and for this reason all the more so are they most frequently the

source of many chronic incipient conditions, and especially transient and curable ones. Habits of eating and drinking, smoking, sleeping, indulgences, occupation, exercise, recreation and exposure to light are those of most important consideration. The study of the habits of **occupation**, alone, has become so important in this country of greatly varied industries, that today in our large medical schools, there is the chair of the professor of occupational diseases, and his place in medicine is becoming more fixed and influential each year. The scope of this one habit of life includes the kind of work, the number of hours and the time of these hours (night or day), the pressure and stress of it (including the home demands and the incentive for efficiency), the contact with poisons, the hazard of injury and many other elements of study in special occupations too numerous to mention here. The eye is peculiarly vital in occupational conditions due to its close relationship to nervous diseases and the stress of life. The refraction of an eye, its visual acuity and efficiency is **always** dependent upon the habits, circumstances and environment of the individual's occupation. This is not only important as an ocular study, but also is fundamental medically, industrially and socially. The effect of the environment of light upon the eye is more direct and profound than in systemic disturbances. Injurious effects of light upon the eye was at one time believed to be in direct relation to the length of the light wave. It is now claimed that it is due to the glare of light, brought about by the direction from which it comes, and by the reflection from a glazed surface. Electric light, the new nitrogen bulb light, and numerous bril-

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liant artificial colored lights, while not proved experimentally, are clinically well identified as injurious to even the strong healthy eye of normal ciliary adjustment. Add to this other factors of the habits of life and some systemic disturbance, and the stage is set for a serious ocular condition to develop. On the other hand, the normal eye needs normal bright day-light and reflected sun-light, just as a delicate flower needs it in which to flourish. And if we keep the retina continually shaded, it becomes hypersensitive to normal light, and like the fern, a plant that only thrives in subdued light and shadow. The strain and stress of life in the City, in darkened rooms, poorly lighted and then only by artificial light, forces the layman soon to use a colored glass when exposed to normal day-light. Thus dilatation of the pupil is maintained, and though relaxation of the ciliary muscle is not necessary with every dilatation of the pupil, that at least is the tendency, till it becomes actual, when of course perfect ciliary adjustment is no longer maintained naturally, and a prescription for glasses soon becomes necessary for ocular efficiency. Colored or tinted glasses are indicated **only** in cases of true hyperesthesia of the retina, diseases of the fundus, after a cycloplegic, and where exposed to excessive bright light, either artificial, or on the desert, in the tropics, on the snow, etc.

And now, in conclusion, what is the obligation and responsibility of the oculist when consulted for an ocular condition directly related to a systemic disease? May I answer this by stating that recent correlated medicine offers a complete and satisfactory outline of investigation for diagnosis, management and treatment of the particular case:

1st. The family physician, who knows most intimately the family history and previous medical history, and the habits and environment of life more definitely than any other can know it. Moreover, his physical examination of the patient is required.

2nd. The bacteriologist and chemist; for urinalysis; complete blood analysis, Wassermann, gonorrheal complement fixation, chemical blood, blood culture, parasites, etc.; feces analysis, chemical, bacterial and parasites; sputum; gastric analysis; specific serums and vaccines, etc.

3rd. The roentgenologist for X-ray plates of the head, teeth, sinuses, chest, complete gastro-intestinal series; fluoro-scopic, etc.

4th. The neurologist for a complete neurological examination including observation.

5th. The oto-laryngologist, et cetera.

I do not wish to give the impression by this outline of such a comprehensive cooperative system, that by it we are passing into a medical millenium, as it were, in which every physician is a specialist in a narrow rut of endeavor, and none of us dignified by the name of general practitioner of medicine. I am sure I am not misunderstood when I state, that by this very fact and necessity of cooperation, we are all general practitioners of medicine. Omnes omnitem-pore et juvantur et honorantur.

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Recent Advances in the Diagnosis and Management of Genito-Urinary Tumors



RUSSELL S. FERGUSON, M.D.
Memorial Hospital, New York City

It is not my purpose to discuss the routine diagnosis of urological neoplasms, nor to describe in detail the management of these cases. I am interested for the moment, only in the advances in our knowledge of the natural history, structure, pathological physiology, and diagnosis of neoplastic disease, and wish to provoke a discussion of the clinical management of these tumors based upon the recent additions to our knowledge.

This discussion, therefore, will not be concerned with the orthodox regional presentation of cancer of the prostate, bladder, testis, penis and kidney, but will be presented solely from the point of view of advances in diagnosis, and in clinical management, as they apply to all of these separate tumors.

ADVANCES IN DIAGNOSIS

Before the diagnosis of a neoplasm can be safely made and the disease accurately classified, it is necessary to study the structure of the tumor. The classification of disease on structural grounds is of more than academic interest. It will be presently seen that the practical clinical management of genito-urinary neoplasms depends to a great extent upon such information.

For the purpose of recognizing the structure of a neoplasm some form of biopsy is necessary. I shall not enter the controversy which may still exist as to the safety of biopsy, but dispose of the question by stating that biopsy has been practiced consistently by

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the entire staff of the Memorial Hospital without serious alteration in the clinical setting of any case. It is a required and necessary procedure in the Radium Hemmet in Stockholm, in the Curie Institute in Paris, and in many of the larger cancer centers. No substantial objection to the routine use of biopsy has been well sustained.

The structure of the tumor is a valuable aid in predicting the future natural course of the disease, and from this information one is able to plan the most conservative treatment, consistent with the extension of the life of the patient. Without it, the selection of treatment becomes inefficient, more radical, and less consistent with the natural history of disease.

In some cases one may make use of tissues spontaneously passed in the urine, as in the case of sloughing bladder tumors or of tissues fungating from open wounds. These may be classified as spontaneous biopsies and while revealing the structure of the tumor in many instances, they are apt to be unsatisfactory due to the presence of necrosis, infection and hemorrhage.

The oldest form of biopsy, and the one which has met with the most serious opposition, is the surgical biopsy, in which an incision is made and a respectable piece of the tumor removed. The objections to this procedure in dealing with urological neoplasms are numerous, and have led to the invention of other devices for securing the same information. Only one genito-urinary tumor warrants the routine use of surgical biopsy, that is, carcinoma of the penis. It is either impracticable or dangerous when dealing with tumors of the kidney, bladder, prostate and testis.

Tumors of the bladder are more easily dealt with by the removal of small pieces of tissue through the cystoscope, with the Bransford-Lewis Rongeur, rather

than the surgical exposure of the bladder. This form of biopsy should be routinely employed before any operative treatment is undertaken. The amount of tissue obtained by this method is sufficient in most instances for intelligent study. It has been stated that specimens removed from the superficial portions of bladder tumors may not represent the true character of the tumor at its infiltrating base, yet this objection fades in significance before the accurate studies of Aschner, and the Carcinoma Registry Committee of the American Urological Association. Aschner reported the efficiency of the cystoscopic biopsy to be 95 per cent. In a study of 902 tumors of the bladder contained in the Bladder Tumor Registry of the American Urological Association, Aschner's estimate was amply confirmed. Hence, it is not necessary to use extreme, large, types of cystoscopic rongeurs, nor is it essential that specimens be taken from the base of the tumor. The structure of most neoplasms varies but little, and while it is more desirable to secure a biopsy from the base of a bladder tumor, yet routine specimens will represent the structure correctly 95 per cent of the time.

Tumors of the prostate and kidney due to their deep location in the body present a real problem. Surgical biopsy is out of the question unless one is prepared to proceed with whatever method of surgical treatment is chosen. Under these circumstances one would have to depend upon frozen section diagnosis and would have little time to plan and execute an intelligent attack. In 1930, after an extensive investigation of all of the previous methods of obtaining tissues from these organs, the method of aspiration biopsy, adapted from the technic first described by Martin and Ellis, was devised. This form of biopsy can be safely performed by anyone, in the office, clinic, home or hospital with the ordinary tools at hand. A 10 c.c. syringe with a tight piston is neces-

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sary, with a needle of 18 gauge, provided with an obturator, similar to the needles used routinely for spinal puncture. It is preferable when dealing with the prostate or kidney or other deep structures, to have a needle which can be locked on the syringe in order that one hand may be free to guide the procedure.

The technic of aspiration biopsy as applied to the prostate is simple. The patient is placed in the lithotomy position, and the perineum cleaned with alcohol. Under local anesthesia, the needle with its obturator is inserted 2 cm. above the anal margin and 1 cm. to either side of the midline. The point of the needle is directed by a finger in the rectum so that it passes over the anterior wall of the rectum to the capsule of the prostate. When this point is reached, the obturator is withdrawn and the syringe attached. Suction is now created by withdrawing the plunger to the greatest possible extent. The whole apparatus is then moved forward through the suspicious nodule in the prostate and, with the suction still on, withdrawn 1 cm. and sharply plunged ahead 1 cm. in any other direction. The maneuver cuts off the plug of tissue which has been previously sucked into the needle. With the suction still on, the apparatus is withdrawn until the point of the needle is again at the capsule of the prostate. At this point the suction is gently released, the syringe disconnected and the needle quickly withdrawn. The contents of the needle are then pushed out by the obturator on to a clean glass slide. The tissue is firmly crushed and spread with another slide. The specimens are fixed with gentle heat and then submitted to the pathologist. The technic of staining is the ordinary hemotoxylin-eosin technique ordinarily used in all laboratories for tissues. It was at first thought that these specimens would be too small for accurate diagnosis. However, after a little experience and study the pathologist soon becomes competent in the interpretation of these tissue smears. I show you an aspirated specimen from the prostate and, for comparison, the section of the tumor prepared by the usual technic. I have been able to obtain tissue by aspiration from the prostate, sufficient to make a diagnosis in about 95 per cent of the cases. The interpretation of the smear has been wholly accurate with respect to the diagnosis of cancer, and has been inaccurate in 2 instances where cancer was present and representative tissue was not obtained.

The routine use of the procedure in the diagnosis of suspicious lesions of the prostate has resulted in the earlier recognition of many neoplasms with great subsequent benefit to the patient. If one waits for the typical rectal findings in carcinoma of the prostate, the disease, as a rule, will already have passed beyond a favorable setting and the problem of clinical management will be solely that of palliation.

This procedure is also easily applied to suspected tumors of the kidney. The patient is placed flat on the abdomen, the x-ray film showing the location of the suspected mass is accurately measured from the spinous processes of the vertebrae and from the tip of the twelfth rib. These measurements are then applied to the patient so that a point immediately over the center of the suspected mass will be punctured. The needle is inserted as before and after passing through the muscle and fascia will plunge easily

through the perirenal fat and come to an abrupt halt as it enters the renal capsule. At this moment, if the tumor is not fixed, the proximal end of the needle will move back and forth due to the movement imparted to the kidney by respiration. The same technic is now followed as in the case of the prostate. Fluid from solitary cysts, or tissue from solid tumors may be easily removed and identified.

Aspiration biopsy as well as surgical biopsy are objectionable as applied to tumors of the testis and are not to be advised. Fortunately, an entirely new type of biopsy is available for the recognition of these tumors. This may be called a biological biopsy. The teratoid tumors of the testis, uniformly cause the excretion of prolan A in the urine. Biological assay of the urine for this hormone on a quantitative basis will result in the finding of varying amounts of prolan dependent upon the structure of the tumor. The most malignant teratoid tumor of the testis, chorionepithelioma, causes the highest excretion of prolan A in the urine. The amount will usually exceed 50,000 mouse units per liter of urine and may reach 250,000. The embryonal adenocarcinomas of the testis cause the excretion of from 20,000 to 40,000 mouse units per liter of urine, the embryonal carcinoma with lymphoid stroma 2,000 to 10,000 units, the seminoma 500 to 1,500 units, while the adult types of teratoid tumors result in the excretion of about 500 units per liter. This method of biopsy obviates the necessity of surgical interference with the tumor until the disease can be accurately classified and an adequate plan of treatment carefully outlined. During the time required to complete the assay, usually a week, the patient may be studied for the presence of metastasis in the abdominal lymph nodes; the lungs may be examined by x-ray for metastases in the parenchyma or in the mediastinum, and the presence or absence of an enlarged supraclavicular lymph node may be noted. When the assay of the urine has been completed, the nature of the disease will be known and the treatment can be planned according to the extent of the disease and the character of the tumor.

PATHOLOGICAL PHYSIOLOGY

The discovery that the embryonal tumors of the ovary, uterus and testis result in profound changes in the relation of the internal secretions of the ovary, testis and pituitary, has opened up an entirely new field of cancer investigation. The pathology of neoplasms, formerly concerned with descriptive histology and gross anatomy, now becomes an intriguing study of the structure and physiological relations of these neoplasms to the organs of internal secretion. The practical results have been most manifest in the management of teratoma testis. Following the discovery of the fact that the amount of prolan A in the urine of these patients was in accordance with the structure of the tumor, as previously outlined, it was found that irradiation by high voltage x-ray directed at the tumor would in favorable cases result

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in the more or less rapid disappearance of the hormone from the urine. It was found further that in cases where the hormone was uninfluenced by irradiation of the tumor that the prognosis was fatal. These facts, therefore, gave us a tool by which the biological sensitivity of the tumor to irradiation could be determined, and a prognosis based upon these facts accurately stated, far in advance of the possibilities by any other method. The diagnosis of radiosensitivity or resistance by study of the structure of the tumor was found to be absolutely inaccurate on the basis of three year and results, compared with the extreme accuracy of the biological method.

It was further found this recurrence or metastasis of the malignant tumors of the testis could be diagnosed weeks or months in advance of the clinical manifestations of the disease, solely by following the output of prolan A in the urine from week to week. When recurrence takes place, the excretion of the hormone begins to increase in the urine and will continue to increase until further irradiation is directed at the proper area. When all the disease areas have been treated efficiently, the hormone will decrease in the urine until a level of 400 units or less is found. This residual excretion is consistent with clinical cure in the more malignant types of the disease, and is caused by the fact that such patients always remain in a physiological state of semi-castration. The pathological physiology of other tumors has led to equally important advances in clinical management. It has been found that the secretion of the ovary, folliculin, possesses the property of stimulating the growth of either normal or neoplastic breast epithelium. The treatment of carcinoma of the breast in young women

whose ovaries are still functioning is, therefore, advanced by either a surgical or roentgen castration. Similarly, the internal secretion of the testis has the property of stimulating the normal or neoplastic prostatic epithelium and hence it is both reasonable and beneficial to apply roentgen castration as a palliative measure in advanced cases of carcinoma of the prostate with widespread bony metastases.

I have pointed out only a few of the practical advances made possible by the study of the pathological physiology of neoplastic disease. Cancer research in the last five years has taken a definite trend toward this type of investigation and it is easy to foresee from investigations now in progress that a much more accurate knowledge of the disturbed physiology of the organism in neoplastic disease is at hand. The practical results will be significant but impossible to predict at this time.

ETIOLOGY AND PATHOGENESIS

Occasionally important advances are made in the management of a specific neoplastic disease because of new light thrown on the problem of its etiology and pathogenesis. Urologists for many, many years have looked upon multiple papillomatosis, or multiple papillary carcinoma of the urinary tract, as a local regional problem depending upon whether the kidney, ureter or bladder was involved, and have directed their efforts at management to the local manifestations of the process. The clinical facts have long been recognized as inconsistent with that conception. Now, new light has been thrown on the etiology of the multiple tumors of the bladder, resulting in a complete change in our conception of

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the disease. From this follows an important change in the clinical management of multiple papillomatosis.

The older conception of the process was engendered by a confusing terminology, lack of meticulous observation of the clinical course of the disease, and by the unproved myth that parts of these tumors may break off and implant themselves in a normal mucosa. We have been in the habit of referring to the new multiple tumors as they appear in the bladder as being recurrences. Careful observation in only a few cases should be sufficient to convince any observer that these are not in truth recurrences but are in reality new tumors, arising in a previously unaffected portion of the mucous membrane, and entirely unrelated to the site of tumors previously destroyed.

The anilin tumor arising in the bladder of the dye worker provides an unexcelled opportunity to study the very earliest lesions of multiple papillomatosis. If the dye worker be examined routinely from year to year, the very earliest lesions will be seen before symptoms are evident. Recently in this country a number of these tumors have appeared in the various dye manufacturing centers. It has been my good fortune to observe 32 of these cases. The tumor first appears about the terminal capillaries in the basal layer of the mucosa and the earliest lesions are covered with a normal and intact superficial epithelium. In late cases some of the tumors may have fungated through the surface while others will still be covered with an intact surface epithelium. This would indicate that the cancerogenetic agent is not secreted in the urine and does not affect the surface of the mucosa. It shows rather that the agent is circulated in the blood and that the initial damage occurs in the basal layer of the epithelium. The same state of affairs is noted in Bilharzias disease. The ova of this parasite are deposited in the terminal venules of the bladder and the lesion may reach a considerable size before the surface of the mucosa is ruptured. These facts led to a review of the earliest civil cases with the result that several have already been found with fully malignant early growths underlying an intact superficial bladder mucosa.

Multiple papillary carcinoma must, therefore, be considered from the standpoint of the entire organ in which the tumors first appear and not as a local problem. The disease doubtless arises from constitutional causes which produce the circulation of a cancerogenic agent in the blood. We are not wholly aware of the nature of this agent. The great similarity in molecular structure between the sex hormones, particularly folliculin, and the cancerogenic coal tar products, is very striking. Indeed it has been shown by Lacassagne and Kennaway that estrus may be produced in the castrate female rat by the application of dibenzanthracene to the skin.

It, therefore, appears that the multiple tumors of the urinary tract are caused by an agent circulating in the blood, not excreted in the urine, producing the initial damage about the terminal capillaries in the basement layers of the mucosa, and consequently new tumors may arise from time to time in any portion of the affected organ. The inference follows that treatment, instead of being directed to the symptomatic manifestations of the disease, that is the local tumors present at the moment, must be directed

to the entire mucosa, in order to prevent the formation of new tumors later, in other portions of the bladder.

ADVANCES IN CLINICAL DIAGNOSIS

From the standpoint of clinical diagnosis it is not enough to recognize the regional location of neoplastic disease. The mere statement that the patient has cancer of the bladder, prostate, testis or kidney does not enable one to plan an intelligent attack and to evaluate the end result of treatment. The tumors of the testis can be easily classified as previously outlined. Tumors of the bladder may be graded and may be further defined as single or multiple, and papillary or infiltrating. There are at least three separable clinical and histological forms of cancer of the prostate. Nor is it entirely sufficient to recognize these separate clinical entities. One must be able to define the anticipated clinical course of the specific tumor from which the patient suffers in order that conservative treatment may be instituted. The multiple tumors of the bladder run an extremely long natural course, from 5 to 20 years without benefit of treatment, whereas a grade IV infiltrating carcinoma of the bladder vault will run its natural course within 10 months. Chorionepithelioma of the testis has an average life history of 6 months from the first symptom to death, while adult cystic teratoma, constituting 5 per cent of all teratoid tumors of the testis, will permit the survival of the patient, without treatment, from 4 to 10 years. Cancer of the prostate arising on the basis of benign hypertrophy in a man of 65 will run a natural course of from 3 to 6 years, while a grade III small-cell carcinoma arising in a small fibrous prostate in a man of 50, will terminate his life within 10 months.

The problem of clinical management, therefore, depends upon an accurate estimate of the potential life history of the specific tumor at hand. The radical operation of Chevassu-Hinman, or simple orchidectomy alone, or irradiation alone, would produce at the end of five years a 100 per cent successful end result, if applied only to the adult cystic forms of teratoma. Each observer using these three different forms of treatment would be firmly convinced that his procedure was the treatment of choice for this disease. The answer is that it makes no difference which form of treatment is selected in so far as the end result is concerned. The disease is relatively benign and runs a natural course of five years without benefit of treatment, hence a similar five year result might well be obtained by abstaining entirely from treatment. The problem, with this tumor, then resolves itself into the selection of the most conservative method. On the other hand, if one were to deal with 100 cases of chorionepithelioma of the testis, the radical operation and simple orchidectomy, as well as abstaining from treatment, would result in a 100 per cent failure at the end of five years. Indeed it would not be necessary to wait five years. All such patients so treated

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would be dead within ten months. By avoiding the risks of surgery and by the use of irradiation, intelligently directed, a fair percentage of chorionepitheliomata of the testis may have their lives extended in comfort for two to three years, and a few apparently cured by this method.

Hence it appears that the five year standard for evaluating end results in the treatment of cancer is not entirely sound. While it provides a convenient yardstick by which the work of one observer may be compared with another, yet it is not a very satisfying method. For my own part, I believe that the control of chorionepithelioma of the testis for a period of 20 months is an achievement outranking the survival of a patient with adult cystic teratoma for a period of ten years.

Clinical diagnosis must, therefore, take into account the anticipated natural history of the specific tumor and the end results of treatment must be evaluated on that basis, rather than on the survival of the patient for a specific number of years, without reference to the particular type of tumor from which he suffered.

ADVANCES IN CLINICAL MANAGEMENT

Perhaps the most important advance in the management of genito-urinary cancer is one which is not concerned with a specific form of treatment. It consists in a rapidly developing change in the policy of treatment. Five and ten years ago radical surgical management, or radical methods of irradiation, were in vogue. The recent advances in our knowledge of the natural history of neoplastic disease, the development of new means of diagnosis, and the control of

our observations by new physiological methods, has resulted in the development of a more conservative policy of clinical management. The importance of this advance is not to be underestimated.

Not many years ago, the surgeon was to be congratulated if he made a hasty regional diagnosis which was correct as to the gross pathology of the disease, and immediately rushed the patient to the hospital for the complete excision of the tumor and, in many instances, the lymphatic drainage area in addition. Today the cardinal sin in the management of genito-urinary cancer is haste. The surgeon of today, confronted with a suspicious, persistent, non-tender, swelling of the testis is certainly negligent unless he takes time to study the situation carefully. There is no well sustained reason why this patient should be operated upon at once. The methods of examination to determine the nature of the disease and its present extensions we have already alluded to.

ADVANCES IN SURGERY

The only tried weapons at hand for the treatment of cancer are surgery and irradiation, including the various combinations of treatment by those means.

It is with considerable satisfaction that one is able to record an important advance in the surgery of genito-urinary cancer. I refer to the more conservative management of the lymphatic extensions of these tumors. The British Empire Cancer Commission in its survey of squamous carcinoma in Great Britain was able to show that the end result at five, ten, fifteen, and twenty years after operation for carcinoma of the penis was identical, whether the patient was treated by conservative amputation only, or by com-

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plete amputation with radical dissection of the lymph nodes in both groins. This result may be easily confirmed within the experience of all who have had to deal with this disease. The result of this extensive survey, might well have been predicted on the basis of our present knowledge of the chronology of the dissemination of squamous carcinoma. This tumor, as a rule, will not metastasize to the lymph nodes in less than two to three years. Hence, conservative amputation of the primary lesion on the penis, and avoidance of the risks attendant upon radical dissection, conforms to the natural chronology and manner of dissemination in this particular tumor.

Carrying the policy of conservative management of lymphatic extension further, it has been shown that in teratoma testis the end results by irradiation alone, far surpass the results obtained by the radical operation of Chevassu-Hinman. Hinman reported a collected series of 100 cases in which the radical operation had been done. Seventeen per cent of the patients were without evidence of disease at the end of five years. In a series of 154 cases treated by irradiation alone, without radical surgery, 29.2 per cent of the patients were without evidence of disease at the end of five years. There is, therefore, no practical clinical reason, and certainly no anatomical one for the continued use of this radical operation. The management of teratoma testis is better observed by surgical conservatism which should be restricted to local orchidectomy either after or before irradiation of the primary tumor.

The superficial lymphatic extensions of cancer of the prostate and the bladder are confined either to the inguinal lymph nodes or to the so-called signal node in the left supraclavicular area. The inguinal nodes are diseased in cancer of the prostate in about 16 per cent of the cases. An equal per cent become involved in cancer of the bladder. When they appear the disease is usually terminal and surgical treatment is out of the question. The presence of these nodes, predicates the presence of other metastatic disease, usually in the abdominal lymph nodes, liver, lungs or bones.

ADVANCES IN SURGICAL MANAGEMENT OF THE PRIMARY TUMOR

We have already referred to the surgical management of the primary tumor in cancer of the penis and in teratoma testis.

Cancer of the prostate may be disposed of by stating that the radical perineal operation devised by Young has not been shown to produce a comfortable extension of life to the patient beyond that permitted by the natural history of his particular type of cancer. I find that the operation has been abandoned in most urological centers in favor of more conservative surgical management. The palliative management of cancer of the prostate, either by simple cystotomy, resection, or irradiation, will produce better end results if adopted as a consistent policy of treatment.

More conservative surgical management is also required in cancer of the bladder and the kidney.

The end results obtained by partial resection of the bladder for carcinoma, do not equal the results obtained by either cystotomy with implantation of gold seeds, or fulguration. Complete cystectomy carries an operative mortality which is prohibitive for most of us. It may be argued, in view of our new

ideas on multiple papillomatosis of the bladder, that complete cystectomy might well be treatment of choice for this disease. It has already been stated that the logical method of treating this neoplasm, is one which will apply to the whole organ. Were it not for the fact that other means are at hand of successfully treating the entire bladder without radical operation, it might be possible to accept complete cystectomy. These methods we will refer to presently.

The same comment might well be made for the multiple papillary tumors of the renal pelvis and ureter.

It has already been shown by Dean, Bothe, and Randall that it is more conservative, and productive of better results, to subject the Wilm's tumors in children to irradiation before nephrectomy is undertaken. These results have improved coincident with improvements in the technic of irradiation. Personally, I await with interest the report of the first observer who has the courage to treat a Wilm's tumor by modern methods of irradiation, without the exhibition of surgery.

ADVANCES IN IRRADIATION

Two methods of irradiation have a wide application in the treatment of genito-urinary tumors. These are interstitial irradiation with gold seeds of radon, and external irradiation by high voltage x-ray.

With respect to the former method two important advances have been made. First, our increasing knowledge of the physical properties of radon, and its biological effect upon the various urological tumors to which they are applied, has resulted in more accurate methods. It is now appreciated that this method of irradiation is inaccurate and inefficient when applied to tumors of a diameter greater than $4\frac{1}{2}$ cm. This means, therefore, that more extensive carcinomas of the bladder had best be treated by other methods.

In cancer of the prostate it is possible to accurately implant the primary tumor in favorable cases, without demonstrable metastases, if the tumor does not exceed $4\frac{1}{2}$ cm. in diameter. The technic in this procedure has been previously described. It is accomplished by cystotomy and the mechanical implantation of seeds with an instrument devised for the purpose. At the present time I am able to report an improved three year end result in a series of 75 cases. In order to demonstrate the efficiency of the method I show you the biopsy from such a tumor and one of the serial sections of the tumor removed at autopsy fourteen months later, the patient in the meantime having succumbed with laryngeal and pulmonary tuberculosis. At death the bladder was intact and functioning properly.

EXTERNAL IRRADIATION

Like many other forms of therapy in cancer, the usefulness of high voltage x-ray has been severely questioned due to the fact that it has been used with-

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out a sufficient understanding of its physical properties and biological effects. It was at first thought that the main usefulness of the x-ray would be obtained in a full erythema dose was delivered to the tumor in as few sittings as possible. The result of this conception has been that the skin overlying the tumor has been so damaged that further irradiation from external sources has been impossible, while the tumor, receiving at a depth of 10 cm. less than 40 per cent of the skin dose, has escaped permanent damage.

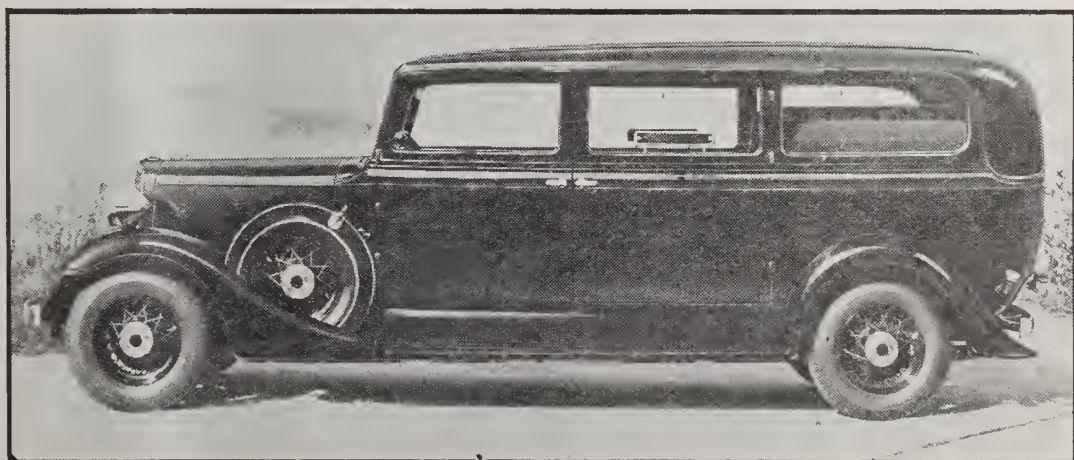
During the last five years under the leadership of Coutard, who first used a prolonged series of small doses of x-rays of low intensity, heavily filtered, in the treatment of carcinoma of the larynx, there has been widespread interest in the application of his methods. The efficacy of the method is well illustrated by Coutard's own reports and by the observations of Martin at the Memorial Hospital who both found an increase in good three year end results of carcinoma of the larynx from five to 27 per cent following the application of the divided dose technic.

The first observations on the use of this method in genito-urinary tumors were confined to the treatment of taratoma testis. The result was an increased salvage at the end of three years. In a series of 154 patients prior to 1928 treated by the old full erythema dose technic, the three year survival was 35 per cent. In a similar group of 59 patients, treated by the divided dose technic, the end result at the end of three years was 52 per cent. The most important observation, however, was that the increase was almost wholly confined to the more radioresistant types of

teratoma. This observation has recently led to the application of the divided dose technic to such radio-resistant tumors as carcinoma of the bladder and carcinoma of the prostate. We have even gone further in the application of the fundamental principles of the method with these two diseases than with teratoma. The customary factors of the old full erythema dose technic may be compared with the new principles as follows: The distance of the tube from the skin has been increased from 50 to 100 cm. The filtration of the rays has been increased from $\frac{1}{2}$ mm. of copper to 1.5 to 2 mm. of copper. The daily dose to each portal of entry has been decreased from 850r, first to 400r, and not to 100r, while the total dose delivered to each skin portal has been increased from 850r up to 4000r. The practical benefits derived from these changes are as follows: The increase in the tube distance from the skin results in the delivery of an increased percentage of the dose at a depth of 10 cm. in the body. The increased filtration protects the skin and normal structures against damage and the recovery of these structures from the influence of the rays is at greater rate than the recovery of the tumor. These points have been established by study of the biological effect on the separate tissues involved. The continuous delivery of daily small doses resulting in a cumulative lethal effect on the tumor at a depth of 10 cm. which far exceeds in rate the effect on the skin and normal structures. Hence, it now is possible to deliver to radioresistant tumors of very low grade, whose tissues are only slightly more radiosensitive than the normal epithelial structures from which they are derived, a dose which

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will result in the complete disappearance of the tumor. An added advantage of external irradiation by this technic over the use of interstitial irradiation is the fact that the dose is diffusely and uniformly applied to the entire tumor and avoids the errors incident to manual placement of gold seeds of radon. While as yet we have no case of carcinoma of the prostate in which the benefits of this form of therapy may be proven beyond doubt. We are able to report definite proof in a case of multiple papillomatosis of the bladder. In this instance biopsy before treatment revealed the tumor to be a grade I papilloma of the bladder, of such typically adult structure that it was impossible to call it cancer, although the disease proved itself clinically malignant. This patient first appeared with four tumors on the trigone. These were treated by cystoscopic fulguration in April of this year. In July the patient re-appeared with eight similar tumors at the bladder neck but with no recurrence in the previously treated area. This time she was treated by cystotomy and the implantation of radon in the bases of these eight tumors. In September she again re-appeared with fourteen new tumors scattered over the posterior wall and vault of the bladder and was then treated by the technic of external irradiation above described. From week to week during the treatment biopsies were taken from these different tumors and the effect of the irradiation could be seen histologically. The last biopsy was taken one week after the course of high voltage x-ray had been completed and the patient told to return three weeks later for further observation. At this visit cystoscopic examination revealed the complete disappearance of every one of the fourteen tumors and in their place there was only a normal mucosa under which could be seen small tufts of capillaries which had formerly supplied the base of each separate tumor. The significance of this observation cannot be overestimated. It means first, that in this particular disease the entire bladder must be treated. Secondly, that a tumor of adult type such as this or such as carcinoma of the prostate can be successfully treated by a technic of external irradiation based on fundamental, physical and biological principles.

Lest it be thought that the result in the case just referred to is exceptional, it should be stated that we have sufficient evidence at hand to warrant the application of this method of external irradiation to all of the multiple tumors of the urinary tract, and to all other tumors thought to be too extensive, or too radioresistant, for other methods of treatment.

CONCLUSION

In conclusion I fear that I have left you without specific information as to the diagnosis and management of the individual case. On the other hand, if the advances in diagnostic methods, and in conservative management, which have been described, are applied consistently in your study of these problems, the interest of the patient with urological cancer will be well served.

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Rheumatic Fever and the Rheumatic State

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Heart disease is at present the leading cause of death in the United States Registration Area. Below the age of forty the majority of cases of heart disease are rheumatic in origin. One-fourth of all cardiac deaths occur in this period. Paul, in a statistical and clinical investigation, concludes that 80 per cent of organic heart disease in children under 16 years is rheumatic in origin. It follows, then, that an understanding of rheumatic fever is of great importance in decreasing the morbidity and mortality of heart disease. The concepts concerning rheumatic fever have undergone marked change in the past ten years, and the view as to what constitutes rheumatic fever is more inclusive than formerly. It is now recognized that the polyarthritis is only an incident in the disease process which is by no means constant in its appearance. The human host reacts to this infection in a variety of ways. The classical symptoms may be obscure or late in appearance. The effects produced are so protean that it has been convenient to use an inclusive term, rheumatic disease or the rheumatic state. Accordingly it becomes incumbent upon the physician to look for collateral manifestations in order that he may try to minimize the effects on the heart of the morbid disturbance. It is with this purpose that a review of certain important aspects of the disease is presented.

HISTORY. Descriptions of conditions resembling rheumatic fever were made in the seventeenth century, but the clearest of these is by Sydenham. Pitcairn, in 1788, described rheumatic heart disease; Stokes, in 1853, noted that involvement of the heart may precede signs in the joints. Cheadle, in 1888, stated that he regarded endocarditis, tonsillitis, exudative erythema, chorea, pleurisy, subcutaneous nodules, and arthritis all as possible effects of rheumatic disease. In subsequent years reliance in the matter of diagnosis was based principally on the fever, arthritis and heart symptoms with some attention to nervous symptoms. In the past decade it has been shown that approximately half the cases with cardiac damage have not had the classical syndrome.

INCIDENCE AND DISTRIBUTION OF RHEUMATIC DISEASE. It has been stated that the occurrence of rheumatic disease is widespread over the globe. Opinions differ and it is clear that the point cannot be settled statistically because of differences in diagnostic standards. It is evident, however, that it does occur throughout the temperate zone. In the tropics, as evidenced by the investigations of Coburn and Longcope, it was found that the disease was rare. Betzer found that rheumatic disease was uncommon and mild in character in southern Florida. Nichols made similar observations.

Seasonal variations in the activity of rheumatic disease are prominent both as regards the exhibition

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of primary symptoms and of recurrence. In New York the greatest number of cases occur in the late winter and early spring, while in Glasgow it is seen in November. In Buenos Aires it is reported in their winter months.

Rheumatic disease is more frequent in higher altitudes than in lower altitudes. Hirsch found that it was present in the cooler plateau regions of Mexico and rare on the coast.

Sex appears to present no differences as to susceptibility; it is noted, however, that pregnancy tends to exaggerate the disease and that in young girls there is a predisposition to the development of sclerosis of the valves.

The age of the patient has a profound influence on the development of the rheumatic state. In very early life there is a short period of comparative freedom. Following this, from the age of about two to puberty the disease is most insidious in its attack on the tissues and frequently indefinite in its signs. There is an increase of this activity during puberty. After this time the joint symptoms tend to become more frequent and typical in their appearance. In middle and after life, the rheumatic state is noted with less frequency and there is apparently less threat of involvement of the heart. In childhood the condition is chronic and slowly progressive. In adult life the disease is more explosive, with predilection to arthritis.

No race appears to be immune to the attacks of rheumatic disease. Clinical evidences of it are uncommon in the tropics but individuals of all races contract it when in regions where it is prevalent,

such as New York or London.

The reliable figures as to the proportion of population attacked by the disease are not available. N. Gray Hill, in England, estimates that 2 per cent of the children between 5 and 13 years of age show definite evidence of rheumatic disease and 1 per cent develop carditis. Longcope found that rheumatic disease was responsible for 1.37 per cent of the admissions to the Johns Hopkins Hospital over a five year period.

It has generally been the impression that social status had some influence in the development of rheumatic disease. Paul and his associates in a detailed study of New Haven school children found rheumatic heart disease 1.5 to 8 times as frequent in a school situated in the poorer part of the city as compared with two other schools in the best districts.

ETIOLOGY. The etiology of rheumatic disease is at the present time unproven. It is agreed by the majority of investigators that it is an infection. A certain group, including Swift, holds that the disease picture is an allergic response to infection by a variety of microorganisms. The view, however, which has the largest acceptance today is that the appearance of the disease is associated with respiratory infection by the hemolytic streptococcus. Coburn, in a monograph covering this subject, presents the thesis that such a respiratory infection is one factor in the mysterious processes of the disease, in the development of which age, susceptibility and environment are also determining influences. In support of this contention he relates observations over an ex-

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tended period on rheumatic subjects and controls in New York. He found that immigrants from regions where rheumatic disease is rarely seen developed classical cases of the disease shortly after arrival in New York. A number of student nurses showed their first signs just after entering hospital environments. Patients in the hospital known to be rheumatic subjects developed exacerbations following epidemics of respiratory infections in the ward. A group of children who had been stigmatized with the rheumatic process improved under ideal conditions while segregated in a home in the country. Epidemics, of respiratory diseases in this group were followed in a large proportion by recrudescences of rheumatic activity. In all this series of observations the respiratory infection was associated with the activity of the hemolytic streptococcus.

PATHOLOGY. While detailed consideration of the pathology seen in the rheumatic state is beyond the scope of the present discussion, certain points are noteworthy. The pathology of this condition concerns chiefly the heart and there are evidences usually of a pancarditis. Inflammatory changes occur in some measure in the pericardium, the heart muscle and the endocardium, with valvulitis. Prevalent theories as to the production of valvulitis are, first, that trauma to the cusps favors localization of the inflammatory process and, second, that the active principle of the disease travels into the cusps by way of capillaries and there produces inflammatory changes with exudation. The character of the inflammation in other parts of the heart and other organs tends to support the latter view.

There are two lesions in the heart said to be characteristic of rheumatic heart disease. That described by McCallum consists of irregular rows and ridges in the endocardium of the left auricle which terminate at the line of closure of the mitral valve leaflets. The other is the submiliary nodule of Aschoff, which is a perivascular structure of microscopic size and complex make-up. It consists of a small array of large spindle-shaped cells with large single or multiple nuclei; grouped with these are a few leukocytes of the several varieties and plasma cells. There is some disagreement among pathologists as to the standards by which this Aschoff body should be known. It is accepted, however, that its presence is the final proof of the existence and activity of the rheumatic state.

In addition to these two characteristic lesions, one gross, the other microscopic, tissue changes are described elsewhere which are less distinctive. The most important of these are in the vascular and periarticular tissues. The lesion consists of an inflammatory change in the capillaries and occasionally a nodose periarteritis. Coronary changes have recently been described in which there was extensive intimal thickening.

In this connection it is of interest to remark that in recent months several papers have been seen in which the simultaneous occurrence of rheumatic disease and periarteritis nodosa was noted and the points of similarity of the two conditions were commented upon. The suggestion is more than a speculative possibility that periarteritis nodosa is an unusual form of the rheumatic state, and was found to exist in the reports of two cases where the diagnosis of rheumatic

disease could not have been made definitely without the finding of the Aschoff nodule.

SYMPTOMS AND CLINICAL COURSE OF RHEUMATIC DISEASE. The usual case of rheumatic disease begins as an upper respiratory infection which may not be severe. After a variable period, usually about two to three weeks, signs of systemic disease are present. In the classical case fever up to about 101-102° is present for several days and continues at a lower level for one or two weeks. During this time pains which may have been general, resembling grippe, subside and pain appears in one or more joints. The rheumatic state is then established. The periarticular tissues about a given joint will swell, become red and hot, subsequently effusion into the joint may occur. The inflammation in such a joint persists for a week or more and may be followed by involvement of one or several other joints, usually a preference being shown for the knees, ankles and other large joints. The duration of this polyarthritis is variable, but it is usually quiescent within a few weeks. In the early days of the attack, or later, evidences of rheumatic disease of the heart, or carditis, may appear. In such a case the classical triology of polyarthritis fever and carditis will present little difficulty in recognition.

In many instances, however, the picture is less diagnostic. Von Glahn found 41 patients in a series of 109 who never had arthritis. Coburn, in a close study of 162 patients with rheumatic disease, found joint pain of widely varying severity in 138. In three instances only one joint was affected. In 109 there was definite evidence of carditis; mitral stenosis was present in a large majority. Seventy-eight patients had severe recurrent epistaxis, otherwise unexplained, which was either preceding or coincident with recognized manifestations of rheumatic activity. In 76 patients there were the so-called growing pains in the extremities. In 54 patients severe unexplained headache occurred during rheumatic attacks.

Fifty-two patients complained of cardiac pain which was regarded as probably associated with carditis not manifesting itself in other ways. Thirty-four patients complained of nausea and vomiting. Forty-eight had chorea. Thirty-two had acute abdominal pain simulating acute abdomen and appendicitis. Twenty-eight had erythema marginatum; 22 had subcutaneous nodules. Fifteen had the urinary picture of acute nephritis. Fifteen had unusual diaphoresis.

Other symptoms were unexplained emaciation, migrating pneumonitis resembling bronchopneumonia, purpura, irregular intermittent fever without discernible localization, pleurisy with effusion, urticaria during recrudescences, erythema nodosum. In three patients of the series torticollis was so severe that meningitis was diagnosed before definite rheumatic manifestations were recognized.

These were the rheumatic phenomena noted in

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this group of 162 patients over a period of years. Occasionally a symptom appeared singly, more frequently as one of a series of rheumatic manifestations which tended to repeat itself in subsequent months. The course in these disturbances remained entirely unpredictable. Of some prominence in this series and in the observations of others is the matter of rheumatic manifestations in the lung and pleura. It appears from the work of Paul, of Howard and of Coburn that such involvement may be regarded as proven. Aschoff-like nodules have been found in the pleura and the rheumatic character of the pulmonary involvement in certain patients has been shown by Eiman and Ganley.

The heart is probably involved to some degree from the onset and it has been shown by the electrocardiograph that abnormalities occur in 90 to 95 per cent of the hearts of patients with rheumatic disease. Disturbances in rhythm are noted in about one-third of the cases. The pulse is proportional to the fever but in the absence of fever and arthritis, a rapid pulse is evidence of carditis. The murmurs heard in the rheumatic state are necessarily the source of some uncertainty. The sounds may be muffled due to edema of the valves. The systolic murmur is usually functional but if it is loud, harsh and 'slapping' should be regarded as possibly accompanying a mitral stenosis. The classical signs of mitral stenosis, however, are not to be expected during the first attack, as it is usually found that 3 years or longer are necessary for the degree of contraction that gives signs.

The frequency of pericarditis varies with age if the patient and other factors not known. Estimates as high as 50 per cent involvement are given. The condition may be painless and when pain is present there is frequently extension to the neighboring structures with inflammation of the pleura, mediastinum or diaphragm.

COURSE OF THE RHEUMATIC STATE. When the rheumatic state has become established the subsequent course is subject to infinite variations. The phenomena noted above, not habitually thought of as being rheumatic, may appear in irregular order and for an indefinite period. Von Glahn has found the Aschoff nodule which is a sign of activity in tissues from patients in whom there had been no signs of clinical activity for periods of one to thirty-eight years.

The clinical course in children lacks many of the distinctive features noted above. The onset is insidious. Anemia is present; the child is pale, easily fatigued, has poor appetite and often gains in weight slowly. There may be stiffness or slight "growing pains" in the extremities. The child is peevish, irritable and easily frightened. They lack mental concentration and drop objects. Subcutaneous nodules are more frequent in children than in adults. The duration of activity is more indefinite than in adults and the need for rest during such a period is greater for protection of the heart.

LABORATORY FINDINGS. Except in the presence of the classical triad of arthritis, fever and carditis, a certain degree of uncertainty is necessarily attached to the diagnosis of the rheumatic state. And even when the state has been observed in an individ-

ual and is subsequently quiescent clinically, we are without exact means of determining the duration of its activity in a sub-clinical sphere. To give aid in this problem laboratory data have been tried in various fields; of value are the following.

Uncomplicated by other factors, the average leukocyte count is 12,000 to 17,000, but variations from 4,000 to 31,000 are seen. There is a varying degree of anemia; in some cases this is marked, tending to the hypochromic type. The differential count shows an increase in neutrophils.

Of more importance than these, however, have been the observations on the sedimentation rate. The considerations involved here are probably familiar to you. Briefly, a portion of blood is mixed with one-tenth as much 3 per cent sodium citrate and the red cells are allowed to settle. The rate of settling is altered in many disease conditions. It is in no way specific for this or other diseases. Normally the column of red cells settles from 4 to 8 or 10 mm. in the first hour. Values over 12 are abnormal. Several observers have found that in rheumatic disease the rate is increased and remains increased after other signs have subsided. An exception to this is in chorea, where it is noted that chorea in the absence of other rheumatic symptoms is not associated with an increased rate.

COMPLICATIONS. The most prominent complication of the rheumatic state is subacute bacterial endocarditis. It has been seriously contended that certain forms of bacterial endocarditis were merely the terminal phase of the rheumatic state. Investi-

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gations by Thayer, Coburn and others indicate that the conditions are separate. While the rheumatic disease may present many difficulties in differentiation from bacterial endocarditis, and they may coexist in the same patient, they are not the same. The rheumatic disease is thought to prepare the way and predispose to bacterial implantation on the endocardium. It is noted, for instance, that under the age of 10, when the activity of the rheumatic state in the heart is marked, bacterial endocarditis is rare. It occurs in 4 per cent of all cases of rheumatic carditis.

Other complications may be regarded as sequels of the disease. Congestive heart failure is a terminal feature in about two-thirds of the cases and fibrillation occurs in one-fifth.

DIAGNOSIS. In the presence of the classical triad of arthritis, fever and carditis, diagnosis is readily apparent. In approximately one-half of patients the disease is prone to give the irregular manifestations previously described. The grouping of several of these in a patient, together with the blood picture and sedimentation time, would give sufficient basis for a clinical diagnosis of rheumatic state.

PREVENTION. The prevention of rheumatic disease in the light of present knowledge is not simple. It involves consideration of the environment, the resistance of the individual, and the prevention of respiratory infections. Experimental attempts at immunization with hemolytic streptococcal vaccines have given encouraging results and it is suggested that they may have clinical value. The removal of tonsils has not been followed by immunity from rheumatic infection. It is found, however, that the rheumatic state is found twice as frequently in those whose tonsils have not been removed, as in those who have had tonsillectomy.

In prevention of further recrudescences it was found by Coburn that removal of a group of patients with rheumatic disease to Porto Rico was followed by a subsidence of rheumatic symptoms in three to six months. The whole group, however, developed an exacerbation of the disease upon return to New York.

TREATMENT. The rheumatic state presents a problem in the treatment of the active manifestations and in the protection as far as may be of the heart.

The treatment of the acute phases is symptomatic largely. The administration of salicylates controls in a measure the pain and fever; it does not seemingly influence the duration of the process or the severity of cardiac involvement.

Of some value in treatment may be the suggestion made by Rhinehart and Mettier from their experiments on guinea pigs. Previously the Aschoff rheumatic nodule had not been produced in animals. These workers produced a subacute scurvy in guinea pigs by withholding vitamin C and gave them intracutaneous injections of hemolytic streptococcus. They produced an endocarditis resembling that of rheumatic disease and found lesions closely similar to the Aschoff body. It is suggested, then, that vitamin C is an important factor in the resistance to the rheumatic process.

The treatment to prevent damage of the heart is rest in bed, which should be continued for months or until the evidences of activity have subsided. This

is the difficult phase of the whole problem. Adults can scarcely be made to see the necessity for such rest for themselves and are unable to institute it many times for children with the rheumatic state.

Evidences as to activity of the rheumatic state may be gathered by consideration of the temperature, joints, weight, blood picture, sedimentation rate and comparison of the sleeping and waking pulse. These should all be normal before the patient is allowed activity.

SUMMARY. The rheumatic is prevalent to some degree through the temperate zone and is responsible for the majority of cases of heart disease before the age of 40.

Rheumatic disease is frequently not classical and in children may produce carditis and a lowered state of health very insidiously.

Suspicion as to its presence and search for collateral manifestations may lead to clinical diagnosis before cardiac damage has occurred.

The patient should be at rest in bed during the period of activity of rheumatic disease.

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The Diagnosis and Treatment of Acute Intestinal Ileus

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The improved results currently obtained in the management of acute intestinal ileus are largely due to earlier accurate and complete diagnosis in obscure or advanced cases. The refinements in diagnosis have not only made possible the accumulation of criteria which are of value as guides in choosing and timing the employment of long established methods of treatment, but they have made feasible the development of new methods of management for some types of ileus.

Especially if the new methods of management are to be safely employed, it is important to determine, whenever practicable, the mechanism of the ileus and to recognize the existence and degree of associated conditions such as strangulation, adynamic ileus, dehydration, and changes in body chemistry. Because of their increased importance as diagnostic aids and therapeutic guides, the variations in the common symptoms and signs, the occurrence of certain less constant ones, the clinical findings, and the special methods which are occasionally necessary for accurate diagnosis in ileus deserve review in consideration of their newer or added significance.

Symptoms. Pain, varying in degree from mild to excruciating and usually colicky in quality, is the only constant symptom present in acute mechanical ileus. Severe unremitting pain is suggestive to the existence of strangulation or at least partial mesenteric vascular occlusion. Pain may be near the site of obstruction or may be generalized and furnish little or no clue to location of the obstruction. The absence of pain or its subsidence following its previous existence indicates the presence or development of adynamic ileus. Interpretation of the significance of pain is most difficult when intestinal obstruction co-exists with peritonitis, or when ileus occurs as a postoperative complication.

Nausea usually occurs in mechanical ileus and is most frequently an early symptom, not uncommonly occurring shortly after the onset of pain. Nausea usually occurs earlier, and to a more pronounced degree in the presence of high obstruction. In the later stages of obstruction, nausea may be absent even though regurgitant vomiting is present.

Vomiting is one of the frequent symptoms of intestinal obstruction and may be reflex, due to pain, or it may be regurgitant. True fecal vomiting rarely if ever occurs. Early and persistent occurrence of vomiting is usually significant of high intestinal obstruction. In low intestinal obstruction, vomiting may be a late symptom.

Obstipation is usually present in ileus. Sometimes it is preceded by one or more bowel movements due to hyperperistalsis occurring shortly after the onset of the mechanical obstruction, and causing evacuation of intestinal contents distal to the site of obstruction.

Melena is rare in ileus, but its presence may be of

much diagnostic value. Bloody-mucus stools frequently occur in intussusception, and melena may also be present when intestinal obstruction is due to a neoplasm of the intestine.

Abdominal distention may be a symptom as well as a sign in ileus. Patients who are distended often complain of fullness, tenseness, or prominence of the abdomen. The development of subjectively recognized distention is usually a late symptom and occurs most frequently in low obstruction of gradual onset.

Prostration may be sensed as well as manifested in varying degrees, depending upon location, duration, or mechanism of the ileus, and on the presence or absence of associated lesions such as strangulation or marked distention with absorption of toxins. Prostration may occur early in high obstruction, due to the violent vomiting and extreme and rapid loss of fluids and minerals. In low obstruction, prostration usually occurs much later, and is the result of absorption of toxic substances pooled in the obstructed intestine.

Physical Examination. General inspection: The facial expression is frequently altered in ileus, revealing suffering, anxiety, or prostration. Altered facies may be present even in some cases of early obstruction, especially if the obstruction is high. In late cases of ileus there may be pronounced apathy, and in terminal cases coma may occur.

The mentality of patients with ileus usually remains quite clear, although their responses may be considerably affected by the presence of severe pain. In advanced cases, toxic delirium or even coma may result in clouding of consciousness.

Further general inspection of the patient may reveal dehydration, high color of the lips due to concentration of blood, weakness, restlessness, excessive perspiration, unusual posture such as a bent-over sitting position or dorsal decubitus with thighs acutely flexed on abdomen, or the patient may be seen to periodically apply manual pressure or massage to the abdomen. Carphologia occurs in terminal cases of ileus and is usually a sign of impending death.

Temperature: Temperature elevation is usually absent unless ileus is associated with strangulation or peritonitis. The temperature is frequently subnormal due to either prostration or the overwhelming absorption of toxic material from loops of distended bowel.

Pulse: The pulse rate in ileus may be elevated and the volume poor as a result of pain, changes in blood chemistry, or absorption of toxic material. In early ileus there is frequently no pronounced or significant alteration in pulse rate and volume.

Respiration: The respiration in early obstruction usually shows little or no alteration. In advanced cases of ileus, in which absorption of toxic material is occurring, and especially when distention is pronounced, respiration may be rapid and of subnormal amplitude.

Blood pressure: Blood pressure changes in ileus

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usually parallel the degree of acute cardiovascular damage, and the blood pressure, especially in advanced cases, may be considerably lowered.

Tympanites or abdominal distention: This occurs in varying degrees and assumes in some instances special forms, depending on duration and location of ileus. There may be no considerable degree of distention present at any time in high obstruction, and distention is usually not pronounced in early cases of low obstruction. Excessive vomiting or abstinence from intake of fluids by mouth are important factors in minimizing the occurrence of distention, regardless of site and duration of obstruction. Pronounced distention usually occurs in low obstruction of long duration. If the tissue turgor or muscular development of the abdominal wall is deficient, the abdomen may assume the variously-called step-ladder, wash-board, corrugated, embossed, or corduroy appearance. In some instances there may be localized, eccentric, or otherwise asymmetrical distention present, due to distention being present only in a limited portion of the intestinal tract. Eccentric distention produced by the distended colon may serve as an important diagnostic finding in volvulus of the sigmoid.

Tenderness: Tenderness is usually absent or only present to a slight degree in most cases of ileus, unless strangulation or mesenteric thrombosis or embolism is present.

Rigidity: Rigidity, like tenderness, is usually not present in ileus. Its presence usually indicates mesenteric vascular occlusion or the co-existence of peritonitis.

Fluid in the peritoneal cavity: This may be present in abnormal amounts in some cases of ileus in which there has been considerable transudate from the bowel as a result of mesenteric venous obstruction.

Visible peristalsis: Visible peristalsis may be detected in some cases of ileus in which very active peristalsis is present, and is usually most pronounced when the abdominal wall is thin or lax.

Borborygmi: Borborygmi, audible with or without the aid of the stethoscope, and tinkling sounds furnish valuable information indicating the degree of peristaltic activity. In adynamic ileus there is an absence of borborygmi and visible peristalsis.

Abdominal masses: A mass in the abdomen may be felt in some cases of ileus. Outstanding examples are the sausage-like mass which is rather characteristic of intussusception, and obstructing intestinal neoplastic masses. Abdominal masses may occasionally compress the intestine sufficiently to cause obstruction.

Rectal examination: By this means strictures or neoplasms causing obstruction may be detected and in some instances an intussusception may extend either near or through the anus, so that it may be seen, palpated, or viewed by means of the proctoscope. Rectal examination in ileus is also of importance as a means of revealing masses in the cul-de-sac of Douglas.

Vaginal examination: Vaginal examination may be of value in diagnosis of ileus, serving as a means of detecting significant masses in the cul-de-sac of Douglas or elsewhere in the pelvis.

Laboratory Findings. The ordinary clinical laboratory examinations show no significant changes in early ileus. Concentration of blood, due to excessive

vomiting, may be demonstrated by an elevation of the red cell count, and the hemoglobin. More accurate determinations of dehydration may be made by means of the hematocrit. Leucocytosis is usually absent in simple cases of ileus, its occurrence usually denoting the existence of mesenteric strangulation or associated peritonitis. Urinalysis in early cases of ileus usually reveals nothing abnormal, but in advanced cases traces of albumin or sugar may be found, and casts may be present. Less frequently, urinalysis reveals the presence of indican, acetone, or diacetic acid.

Blood chemistry: Changes in blood chemistry are not detectable or present to any pronounced degree in early ileus unless the obstruction is high and associated with excessive vomiting, in which case there may be an early detectable lowering of the blood chlorides, changes in the carbon dioxide combining power indicating alkalosis, and an elevation in the non-protein nitrogen and urea content of the blood.

X-Ray Findings: Plain x-ray views of the abdomen to show abnormal accumulations of gas and fluid in loops of obstructed bowel are of value not only for diagnosis of early obstruction—they are often of more than confirmatory significance in advanced ileus, and may permit localization and differentiation of type of obstruction. X-ray studies may be of value in following progress during treatment of ileus. The accumulation of abnormal amounts of fluid or gas in the intestine occurs earlier when mesenteric vascular strangulation is present. Gas and fluid may not be detectable in some cases of obstruction because of evacuation of the intestine through vomiting.

In obstruction of the large bowel, barium enemas may sometimes permit accurate differential diagnosis of type as well as location of the obstruction. In the instance of intussusception a quite characteristic filling defect may be demonstrated by means of x-ray examination following a barium enema.

Differential Diagnosis of Special Types of Mechanical Ileus. 1. External hernias: the existence of a painful irreducible external hernia, in association with symptoms common to all types of intestinal obstruction, usually makes diagnosis relatively simple.

2. Ileus caused by the incarceration or strangulation of a loop of bowel in a congenital pouch, or through an intraperitoneal fenestrum, and intestinal obstruction caused by constriction or volvulus due to the presence of peritoneal bands or adhesions may present many difficulties in differential diagnosis. In the instance of the latter types of mechanism, a history of previous operation or trauma, or a history of any illness probably associated with peritonitis is suggestive of bands or adhesions as the cause of the obstruction.

3. Volvulus of the sigmoid occurs most frequently in elderly males, and besides presenting symptoms common to all types of obstruction, there occurs eccentric distention of the abdomen and the

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x-ray demonstration of the enlarged colon, thus permitting differential diagnosis.

4. Intussusception of large intestine: The presence of symptoms common to all types of obstruction, the occurrence of bloody-mucus stools, the presence of a sausage-like mass in abdomen, the protruding palpable head of the intussusception, and barium enemas showing a characteristic filling defect, usually permit differentiation of intussusception from other types of ileus.

Differentiation Between High and Low Obstruction: The outstanding clinical characteristics of high intestinal obstruction are: early vomiting, absence or minimum degree of distention, and early prostration. The chief clinical characteristics of low obstruction are relatively-late and less-violent vomiting, and the occurrence of distention.

Recognition of Complications: Adynamic ileus almost invariably occurs to some degree in conjunction with mechanical ileus, and an estimate of its degree is important. Occurring secondary to mechanical ileus, the development of adynamic ileus results in a subsidence or diminution of previously present pain. When adynamic ileus exists, nausea is usually not pronounced and vomiting, if present, is of the regurgitant type rather than of the violent reflex type.

Mesenteric vascular occlusion, due either to strangulation, thrombosis, embolism, or trauma, is characterized by constant abdominal pain, sudden in onset in the instance of embolism, and of slow onset in the instance of thrombosis. Probably as a result of the considerable adynamic ileus which occurs early, nausea and vomiting usually are not pronounced when mesenteric vascular occlusion has occurred. Tenderness and rigidity, signs which are not ordinarily present in intestinal obstruction, are usually detectable to some degree when mesenteric vascular occlusion occurs. Temperature elevation and leucocytosis are frequent findings in the presence of mesenteric vascular occlusion and are due to peritoneal absorption of actual peritonitis.

TREATMENT

It is now rather widely accepted that the administration of food or fluid by mouth is inadvisable during the development of or during the period of fully developed and sustained ileus. When fluids are given by mouth, it is usually best to begin with water, fat free broth, or tea. When it is felt that the intestinal tract can again tolerate food, then the allowance of a liberal diet is usually advisable, the food serving as a very satisfactory and physiologic peristaltic stimulant.

Drugs such as ephedrine, barbitol preparations, atropine, and solutions of glucose of more than 5 per cent concentration, all of which are frequently used in preoperative or postoperative treatment of surgical cases, have been shown to inhibit intestinal tone and activity, so the advisability of at least as far as possible, avoiding the use of them in treating patients with ileus is obvious. The effect of insulin in increasing intestinal tone and stimulating peristaltic activity in both the normal and the obstructed gut has been demonstrated by Gage, Ochsner, and Cutting (1), and these authors have demonstrated the efficacy of, and have suggested the use of insulin when the administration of glucose of more than 5

per cent concentration seems advisable. By preceding the administration of the more concentrated solutions of glucose by an appropriate dose of insulin, it is possible to counteract the depressing effect of glucose solutions on intestinal tone and peristaltic movements.

The practically complete avoidance of purgatives, enemas, and flushes in the treatment of ileus seems advisable, as the conditions, principally distention, which it is so often vainly hoped that their employment will relieve, are often accentuated thereby. The more recently introduced methods, aside from operative procedures, for relieving loops of small intestines of their gaseous and fluid contents have been the employment of siphonage or suction by means of a tube introduced into the stomach or duodenum, or the intravenous administrations of hypertonic salt solutions which stimulate intestinal tone and peristalsis.

More accurate clinical and experimental data concerning certain drugs which have been supposed to be of value in increasing intestinal tone and peristaltic activity, and the use of which in the treatment of ileus has been widespread, have shown that these drugs exert an inconstant desirable effect, and not infrequently even an undesirable effect. Among these drugs, several of which still are held in high favor by many, but which I am convinced from the data presently available, have little or no good effect in the treatment of ileus, are: pituitrin, pitocin, peristaltine, choline, and acetyl choline. Of the drugs which have long been associated with the treatment of ileus, eserine alone seems to exert a sufficiently consistent beneficial effect to deserve classification as a substance of value. An excellent experimental study of the effect of these drugs has been made by Ochsner, Gage, and Cutting (2), and others.

The application of heat to the abdomen by means of heat tent, electric heat pad, stupes, or hot water bag seems to be unquestionably beneficial in the treatment of ileus. The use of cold to the abdomen appears to have been justifiably displaced as a desirable method in the treatment of ileus.

Morphine and other opium derivatives or preparations have regained a position of deserved favor in the treatment of ileus as a result of the repeated and extended observations made by Ochsner, Gage, and Cutting (3) and others on normal and obstructed intestine. These observers have definitely demonstrated that these drugs increase intestinal tone. There has accumulated much convincing recent clinical and experimental data to support the contention of certain older clinicians who recommended the use of liberal amounts of morphine in the presence of ileus.

The stomach tube has long been used for the removal of accumulations of gas and fluid which has been either swallowed, produced in the stomach, or regurgitated from the small intestine in cases of ileus. Bartlett (4) draws attention to the fact that Senn (5), in 1889, quoted extensively from the writings of Kussmaul, Kester, Rehn, Heusner, and others in Ger-

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many who first used the stomach tube for siphonage of the gastric and high intestinal contents in cases of ileus from all sources. Robertson Ward (6), in 1929, presented an apparatus for furnishing continuous suction, to be used for the relief of postoperative dilatation of the stomach. Such an apparatus, or modifications thereof, have been used by Bartlett (4), Wangenstein (7), and others, who have found the employment of such a procedure to be of distinct value in the treatment of ileus or in the preparation of patients for operation. The greatest field of usefulness of the method of treating acute intestinal ileus by suction with the duodenal tube is in advanced cases of mechanical obstruction due to bands of adhesions, and in cases of ileus of the adynamic type not associated with a mechanical obstruction, in which types of cases the use of suction may obviate the necessity of an operative procedure. In cases of ileus in which obstruction is due to stricture of the bowel wall, obturation such as occurs in intussusception, or compression of the bowel from without, the use of suction as a preliminary method is often valuable but must almost always be supplemented with operation. The long continued employment of suction without operation is distinctly contraindicated in cases of obstruction in which there is a definite or suspicious existence of strangulation of the blood supply of the gut, and in obstruction of the descending colon. Among this group of cases, in which the prolonged employment of suction is undesirable, are included external or internal hernia, volvulus, intussusception, thrombosis, or embolism of mesenteric vessels, and severance or injury of mesenteric vessels. It is in this group that the greatest judgment is required in employing the method of suction and in determining just how long a continuance of the method is safe or advisable, if disastrous results due to delay or failure to institute proper operative intervention are to be avoided.

The apparatus for furnishing continuous suction requires frequent inspection and attention, otherwise it may become obstructed and cease to be effective. Patients on whom suction is used should be in a hospital so that frequent examinations including x-rays can be made and recorded and where the usually necessary later resort to surgical intervention can be carried out at the optimal time.

The effect of the intravenous administration of concentrated or hypertonic solutions of certain salts has been shown to exert a beneficial effect in ileus by increasing intestinal tone and stimulating peristaltic activity. A very complete experimental study of the effects produced by hypertonic solutions of sodium chloride, Ringer's solution, and Hartmann's solution has been made by Ochsner, Gage, and Cutting (8), and their observations lead them to recommend strongly the use of such solutions, particularly a 20 times normal Hartmann's solutions, in the treatment of ileus. Such a solution may be safely used if given in 10 to 15 cc. amounts as often as every four to six hours for a period of several days.

The importance of adequately maintaining or resupplying depleted fluid and minerals in cases of ileus by infusion or hypodermoclysis has been widely discussed and will not be considered further.

Choice of Anesthetic. While there still exists a certain amount of difference of opinion and confusion

concerning the choice of anesthetics in operations for ileus, there has been some clarification of thought in this respect.

In cases of early ileus without considerable distention, any of the commonly employed anesthetics; i.e., ether, ethylene, nitrous oxide, spinal, or local may be used, although I believe that unless there is some particular contraindication to its use spinal anesthesia is the anesthetic of choice. In moderately advanced obstruction the use of either ether or spinal anesthesia is usually advisable. In the presence of any considerable degree of distention the gas anesthetics usually do not afford sufficient relaxation, and evisceration is likely to prove bothersome and local anesthesia under these circumstances does not usually prove adequate. In the presence of advanced ileus, associated with marked abdominal distention, and fixation of the diaphragm, no anesthetic which interferes with the bringing into play of the voluntary accessory elements of respiration should be used. I think that no type of general anesthesia, including the recently introduced Evipal, or even such basal anesthetics as Amytal or Avertin, should be used in the presence of marked abdominal distention. In the presence of marked distention local anesthesia, possibly combined with posterior splanchnic anesthesia, is the anesthesia of choice.

In a discussion of the choice of anesthetics for patients with ileus, several related factors deserve mention: 1. Proper evacuation of the stomach before starting the anesthetic or even repeated or continuous aspiration during the operation, is advisable in order to prevent aspiration of regurgitated stomach contents; 2. The use of ephedrine in conjunction with spinal anesthesia to sustain blood pressure is undesirable in the presence of ileus, because of the depressing action of this drug on intestinal activity. Instead of using ephedrine, prevention of cerebral anemia under these circumstances should generally be accomplished by placing the patient in the Trendelenburg position, and by the administration of an infusion during the period when the spinal anesthesia is prone to cause hypotension.

Operative Procedures in Ileus. Quite obviously, whenever it can be accomplished without considerable hazard, it is usually advisable to locate, and if possible, relieve any mechanical cause in a case of ileus. However, the simple relief of the cause of obstruction, even though this may be a single band of adhesions, may sometimes involve an added amount of manipulation which will cause a fatal outcome in a case of ileus, and furthermore, the simple relief of distention by means of an enterostomy may be all that is necessary for complete relief in some cases of ileus.

Relief of distention in loops of bowel by performing an enterostomy and evacuating the fluid and gaseous contents by "stripping" the intestine has been recommended by Moynihan (9), Holden (10), and others, and I have personally performed such a procedure in 13 cases. Morton (11), Lawen (12), and

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others have, however, pointed out the undersirable immediate and later effects of such a procedure, and in my own (13) experimental observation and from clinical observations I have found too that the procedure results in an alarmingly sudden and often permanent fall in blood pressure. Furthermore, because of the increased absorption to toxins due to sudden relief of intra-intestinal pressure and because of the somewhat lesser intestinal motor activity following this procedure, as compared to the motor activity of the gut following simple relief of obstruction, one is inclined to feel that the procedure of "stripping" should be reserved for use in the occasional case in which its employment seems imperative in order to permit closure of the abdomen or to prevent necrosis and perforation due to intramural vascular strangulation.

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Early Syphilis

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Syphilis because of its great prevalence, marked vicissitudes, inherent ability on the part of the spirochete to attack and destroy, any and every type of body tissue, places it at once among the major medical problems. Being a venereal disease, it is able to hide along the primrose path to man's greatest avocation and successfully elude every measure of law and order to quarantine it or limit its diffusion. The medical world has known the clinical picture of syphilis for nearly five centuries. The scientific etiology was accepted in 1905, when Schandinm (1) demonstrated the *Trepanoema Pallida*, in syphilitic lesions. The record of the Hunterian chancre and the differentiation between the big pox of syphilis and the small pos, is familiar to all. The mode of invasion, the differentiation of the various lesions, the division into the three and possibly fourth phase is sufficiently well standardized to be recognized as well, by the average practitioner as by the syphilographer. The future holds much undeveloped data relative to the serology, biology, physiology and immunity of syphilis, but the development of this knowledge belongs to the realm of the specialists. The problem confronting us is primarily that of prevention and secondarily shortening the infectious stage as rapidly as possible.

The first premise, must deal with the proper education of the public, the potential prey to the disease. The firm grip of false modesty and secrecy relative to sex matters and particularly the spread of venereal disease has discouraged, all but a few of our colleagues, in this most essential form of attacking the dissemination of syphilis.

If we were so minded and permitted to discuss the transmission of venereal disease as we are the contagion of small pox or diphtheria, our results would be far more fruitful. Since 90 to 95 per cent of the new cases of syphilis, or gonorrhea, are contracted by sexual congress, we are at once confronted with the impossibility of treating the subject of syphilis in a non partisan manner as we discuss the usual contagious diseases. Being familiar with the usual avenues of the spread of venereal diseases, several states have passed laws, making the case reportable and subject to the laws of control of other contagious diseases. It was hoped that such measure would restrict or inhibit the promiscuous exposure or contact with the non-infected. Even tho armed with this weapon of attack, the syphilitic patient seeks refuge behind the false modesty and secrecy of social hygiene, while the dissemination of the disease progresses unchecked. On these points, I am wondering if we as Doctors, are availing ourselves to the fullest extent of the excellent privileges extended us?

Let us now consider the patient, and our duty to him, as well as the plan of procedure in obtaining the desired results. Our ideas on this phase can be hung on five pegs without the necessity of many words. In casting about for data to compare with our methods of procedure, it seems to me that the most recent, accurate and concise discussion appeared in the Bulletin of April this year, issued by the United

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Oto(ear)-laryngo(throat)-rhin(nose)-ology
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States Public Health Service and from which let me quote occasionally. First is the establishment of a reliable diagnosis: The second is the duration of the disease: The third is continuation of treatment: The fourth is the spirochetacidal action of the drug, while the fifth and most recent is the encouragement of natural body resistance.

Before the proficiency of the laboratory reached the precision of present methods, the early diagnosis of syphilis engendered some confusion. We know the spirochete, having once invaded the tissue soon infect the lymphnodes in the line of drainage and can be positively identified from this source. After a period of time the tissues at the site of invasion break down and form the chancre. A smear from this lesion properly made, should yield a high per cent of accuracy. A second or third specimen should be made, should the first prove undecisive. The serologic test on which most of us depend, is not conclusive until probably a month after the development of the chancre. Again it may be positive within 10 days, subsequent to the development of the primary sore. The localized shotty lymphnodes lend further evidence to the presence of the disease.

The question of the duration of the disease has been viewed from many angles and it seems just about as many different ideas have been evolved. The duration is of interest from the incipency thru to the fourth or latent phase. The beginning, the type and the intensity of treatment cannot be successfully divorced from the time the spirochetes have been resident in the body tissues. We still hear reverberations against starting treatment before the chancre is well developed, and the serologic test is positive, lest we disturb forever the Wassermann reaction, and interfere with the defensive mechanism on the part of the body. An audit of thousands of cases, where treatment was pressed vigorously during the primary or sero-negative primary stage, has abundantly justified this procedure. The proportion of "cures" when treatment is begun in the sero-negative primary stage (diagnosis being established by history of exposure, presence of lesion, silver stains and dark field evidence of spirochete) stands above 71 per cent on the average and 83 to 86 on best results. Procrastination until the sero-positive phase develops drops the average cures to 53 per cent or a direct loss of 18 per cent. This is most edifying, yet does not cover all the advantages of intensive early treatment. Following the progress of these cases, six months or more showed 3.8 per cent fixed positive blood test in the group of sero-negative primaries as against 14.5 per cent in the sero-positive phase. Let us carry still further, out of the fixed positive group 30.6 per cent developed neuro-syphilis while in the sero-negative group only 18 per cent developed neuro-syphilis.

It seems axiomatic that the secondary stage is to be saturated with treatment. That the tertiary stage is an indissicive combat between treatment and spirochetal progress. The quaternary or fourth phase while not hopeless is far from ideal.

The question of continuation of treatment has undergone a complete change. The first work with salvarsan consisted in giving but few shots and at fairly long intervals. While it is true much more marked reactions developed than we wish to see the spirochetacidal action of salvarsan would not purge

the body. With the advent of neosalvarsan the number of "shots" increased to six which stood as the standard for many years. Time has again proven that even this siege was not enough to rid the body of spirochetes. Too many syphilitic patients who were believed "cured" later came down with the clinical picture of tertiary and quaternary phases of the disease. In the light of our present studies we know only too well that many of these belonged in the group of sero-positive primaries and relapsing primaries, yet again the intensity of medication arose to meet the occasion. In the present standard method of treatment there is no compromise with the spirochete and this diffuses into our third phase of the management of the syphilitic patient. In this phase we are concerned not only with the question of infectiousness of syphilis but in eradicating the organisms from the body. Infectiousness of syphilis is a function of three factors: time, arsphenamine and individual pre-disposition to relapse. Many of us have labored under the untenable impression that a sero-negative patient was non-infectious. It had better be stated that infectiousness is not a function of the serologic state of the patient. No serologic test has any value as a proof of infectiousness or non-infectiousness, early or late in the course of the disease. Syphilis, treated or untreated is most infectious early, grows less so with the lapse of time, and is rarely so after the lapse of five years. Spar for time and delay in any issue involving infectiousness (i.e., marriage, intercourse). Infectiousness is controlled and syphilis will be extinguished, if ever, as a health problem, by treatment of the infectious person. The public health responsibility of the physician is therefore within the early months and years of the disease. Treatment to control infectiousness must be with the arsphenamines. No other drug will do. The use of arsphenamines must not be delayed even to secure any minor individual immunizing advantage. Treatment to control infectiousness must be continuous, not intermittent, and last at least 18 months. Rest periods encourage relapse. Acetarson (Stovar-sol), tryparsamide and non specific (including fever) therapy must not be expected to control infectiousness. Search for infectious lesions is ineffective, except as an adjunct. Hence inspection of prostitutes is useless. Instruction to and cooperation by the patient is ineffective and untrustworthy except as an adjunct. The amount of arsphenamine required is not less than 20 injections. The critical point is between 5 and 9. Heavy metal is required as an adjunct. The infectiousness of semen and vaginal secretions demands abso-

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lute mechanical protection in intercourse, treatment or no treatment. Continence, advised, is seldom practiced. Inspection, instruction, control, and protection are more essential in rest periods than under treatment. There is a relapsing type of early syphilis regarding which no rules or predictions can be formulated. In relapsing types, infectiousness may reappear immediately after, or even during (arsphenamine resistant), treatment with the arsphenamines.

It may be stated tersely and briefly, that the patient who lapses or escapes treatment during the first 12 to 18 months is his own worst enemy, no rest interval should be permitted. We should set up a regime in which the patient is constantly receiving either an arsenical or a heavy metal during the first year of the disease or even longer, unless contraindications strictly forbid. Do not rely on the serologic findings to determine this most essential of all measures in the thoro treatment of the disease. With continuous treatment 79 percent achieved satisfactory results: with intermittent treatment 65 per cent: with irregular treatment 33 per cent: with intensive treatment 23 per cent. The above percentages being drawn following an observation of two years. A little treatment continuously given is twice as effective as when intermittently applied and more than four times as effective as when irregularly given.

The fourth premise, or spirocheticidal action of the various drugs is very intriguing. The original arsphenamine when used alone is superior in action on the serologic findings, while the deficiencies of neo-arsphenamine, silver arsphenamine, are to some extent compensated for by its use with a heavy metal (bismuth and mercury) and by its employment in a continuous rather than an intermittent system of treatment. The older drug is credited with fewer irreversible Wassermann reactions than are the more recent modifications. There is greater adaptability of neo-arsphenamine on the part of the physician engaged in general practice, and upon whom is dependent the ultimate suppression of syphilis. Personal observation leads me to believe there is a wide spread impression that reactions follow the use of arsphenamine (606) far more frequently and are more alarming than those subsequent to the use of neo-arsphenamine. This impression is but a persistent shadow of the fears engendered during the pioneering of intravenous arsenicals and should be entirely erased by the factual data of present accurate records. The present critical study of results of arsphenamine combined with a heavy metal such as bismuth, or mercury, places the odds with bismuth. Arsphenamine mercury combinations may act more rapidly than arsephenamine bismuth combinations in the first three months in reversing the blood Wassermann reaction, while the good effect of the arsphenamine bismuth combinations appear later in the course of the disease. Infectious relapses followed the use of arsphenamine bismuth combinations in but 3.6 per cent while in arsphenamine mercury combinations there were 9.6 per cent infectious relapses.

The optimum treatment, based on the study of many cases, carried out by both the general practitioner and the specialist or syphilographer would blend a combination of the familiar drugs or spirochetocides. The best results after two years observation followed the injection of between 25 and 30

doses of arsphenamine, .6 grams for women and .75 grams for men and a similar course of heavy metal preferably bismuth given intra-muscularly. The heavy metal acts as a necessary participant and the use of full dosage is advised. To be ultra cautious lest relapses occur it may prove advantageous to start the course of heavy metal during the last three shots of the arsphenamine series, using of course, small doses. The arsphenamine injections are usually arranged into three series of 10 to 12 doses, given 5 to 7 day intervals, evidences of arsenical poisoning, sensitivity or kidney break down only prohibiting.

The fifth premise, or encouragement of body resistance, has attracted attention for only a short time, almost no evidence is had that spontaneous and complete cure will occur in the absence of treatment. The aim of the present system of treatment, in keeping the patients system approximately saturated with spirochetocidal drugs for a period of 12 to 18 months rather than to surcharge him into the drug toxic phase will require considerable more accurate study to properly affirm that body resistance has been sacrificed by medication. Again, when we consider the prolonged use of antisyphilitic therapy (tryparsamide, arsphenamine, mercury, bismuth, thio-bismol, hyperthermia, etc.) in our late syphilitics (tabes and general paralysis) and compare the results with a similar series where treatment has not been pressed vigorously, most of us strongly support active therapy, and await the proof of possible error with considerable stoicism.

CONCLUSIONS

A. The ultimate suppression and eradication of syphilis may be attacked, using prevention and medication.

B. Prevention will be far more fruitful when we teach the patient as well as lay people the infectiousness of the disease.

C. The first essential to treatment is a correct diagnosis and the moment this is established treatment should be pushed.

D. Do not declare an armistice with the spirochete during the first 12 to 18 months of treatment.

E. Do not stop treatment during this stage because of negative serologic findings.

F. The best drugs at our command are the arsenicals in combination with a heavy metal.

G. The factor of body resistance remains for the future to determine.

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Some Mississippi Hospital Problems*

V. B. PHILPOT, M.D., F.A.C.S.

President Mississippi State Hospital Association
Houston, Miss.

Madam Chairman, Ladies of the Mississippi State Nurses Association:

Personally and on behalf of the Mississippi State Hospital Association, I now express very deep appreciation to your officials for the invitation to be on your program on this occasion. I also extend to you warmest greetings from the State Hospital Association, and we sincerely hope to have an official in your organization on our own program next year. A cooperation between these organizations I consider very timely.

I have observed the growth and interest taken in organized nursing in Mississippi during the last several years, and it is a pleasure to note the progress you have made in elevating the standard of your profession, and the very splendid organization that is evident by the good attendance and interest at your meetings. I also note with pleasure that you have some of the leaders of the nursing profession of this country in it.

The Mississippi State Hospital Association, of which I have the honor to be the leader at this time, is the youngest and smallest of the three scientific humanitarian organizations in Mississippi, having been in existence less than six years. It has become one of the most wide awake organizations of its kind in the south, and has already more than four fifths of the hospitals in Mississippi as its institutional members, with a goodly number of active personal members. This organization, as you know, is composed of hospital administrators, directors, doctors, and nurses. I call your attention, especially those of you who are connected with hospitals of Mississippi, to the importance of your becoming actively associated with this organization. Please remember that each hospital of the state is allotted two delegates to the association meetings, and it would be very pleasing to me for at least one of these delegates to be a nurse.

Now, the subject of my talk this afternoon, "Some Mississippi Hospital Problems," is one exceedingly broad, and certainly too large to do it justice by any means if I were capable, but I shall discuss very briefly a few conditions that exist in Mississippi today that confront the hospitals that are doing their bit to relieve suffering humanity. There are at the present time more than fifty hospitals in Mississippi doing more or less efficient work for the care of the sick of our beloved state. With this large number of institutions, in a state with only two million inhabitants, the question of standardization of such institutions naturally confronts the leaders of the organized medical, hospital, and nursing bodies.

While it is the desire of all our scientific bodies to make medical and surgical attention accessible to all the people, we must not sacrifice a reasonably high standard of efficiency, because, with the exception of

the soul of man, there is nothing more precious than human lives.

I, therefore, call your attention to the fact that it is the duty of our organized scientific bodies to discourage the building of inferior institutions with poor equipment, and especially to be operated by people untrained for such a purpose. The hospital building should be more modern, if anything, than any other institution. Because a hospital is small and remote from large cities is no excuse for its not being equipped with every convenience that the city institutions have. In fact, it should not exist without such equipment, and if those contemplating a hospital in their community are unable financially or otherwise to do this, it is far better for their community that no hospital at all existed.

It is useless for me to tell you, of course, that the personnel of any hospital should be men and women of the medical and nursing profession who have been trained, and especially trained, to operate these institutions with a high degree of safety for the patients who may come to them, and when I say this I mean that the doctors especially should have years of hospital training. They should, I think, specialize in medicine, and should not try to do surgery, eye, ear, nose and throat, urology, obstetrics, general practice, and everything else. There is no reason in the world why a group of doctors especially trained cannot succeed, even in the small hospitals, by each of them confining their work to one or the other specialties in medicine. I mention these facts to you because you can assist in a great measure those of us who are trying to elevate the standards of hospitals in Mississippi, and discourage men who know little or nothing of hospital work seeing visions and buying a few beds and a few crude instruments and using a part of their residences or adding a few rooms to their offices and calling same a hospital, to the detriment of the public in their community. I appeal to you as leaders of the nursing profession of our state to discourage such institutions, and insist that even though our institutions are small that they be good ones with splendid equipment and operated by people highly trained for such purposes.

FINANCES: Next to the problem of efficient buildings and equipment and the hospital personnel is that of financing the institution. Hospitals cannot be run without money to operate them. In our experience this has to be gotten from the patients themselves or from state or government aid. In many years of hospital experience, our institution has received as a gift one rolling chair. With this experience, it is apparent that nobody is going to give us anything.

Now, securing pay for hospital services from people able to pay and willing to pay is an easy matter, and if all the people were in this class the question of financing would be solved. We have to consider the other classes, namely, those who will not pay

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*Read at meeting of Mississippi State Nurses Association, Hattiesburg, Mississippi, November 1, 1934.

and those who cannot. The second class, as I see it, should be dealt with in a strictly business way, as all patients should be on entering the institution, namely, arrangements should be made and be as business-like in hospital affairs as you would be in operating a bank or any other business. Of course, due consideration has to be given to emergencies, and in no instance should a patient's physical needs suffer. But by using the proper tact and business-like methods early in the game, the loss to the hospital on all who are able to pay can be cut to a minimum.

The consideration of the third class, or charity, is one that involves the greatest thought. It appears that in this day of government aid to almost everything, the hospitals of the country have been wholly and completely ignored. I am unable to understand why the government has seen fit to feed and clothe able-bodied people, and otherwise assist them in their distress, unless and until it becomes necessary to go to a hospital, at which time it appears to me they should be considered most, then leave them to get attention as best they can. Should the hospital refuse to take such cases, then it is considered an unmerciful institution.

To secure any change in the government plans in this regard is a national problem, and the National Hospital Associations are doing their best in this regard. All we in Mississippi can do is to cooperate by writing our members of congress the situation, which we should do.

There is, however, another source of relief to the indigent sick needing hospital attention that comes closer home to us, and that is the question of state legislation. Mississippi today has more state charity hospitals than all the other 47 states in the nation combined. These institutions began when few if any other hospitals existed. They were absolutely necessary at that time. Today, according to the estimation of the Mississippi State Medical and Mississippi State Hospital Association, they should by all means be abolished. It doesn't speak well for the state of Mississippi to be so far behind by depending on caring for its indigent sick in five state charity hospitals, when only three others exist in the whole nation. Such a system is absolutely obsolete and bad when we consider the fact that there is only one county in the state, namely, DeSoto, which does not either have a hospital or adjoins another county that does. It is, indeed, the height of false economy to operate five state charity hospitals, all of them located in the south-central portion of the state, and their own records will show that a great per cent of their patients comes from the county in which they are located or from the adjoining counties.

The money spent for the care of charity and upkeep of these five state politically controlled institutions could and should be distributed to the counties of Mississippi on a per capita basis, to be used for their indigent sick needing hospital attention, to go to the hospital nearest them. It would do far greater good and reach the people that need attention even in the most remote portions of the state in a far more satisfactory way. The charity of these counties would then receive the necessary hospital attention, and there would be no "taxation without representation," for this purpose in Mississippi.

Such a program as I have outlined briefly has

been advocated for some years by the Mississippi State Medical and Mississippi State Hospital Association, and which came very close to becoming a law at the last session of the legislature. I strongly recommend to the Mississippi State Nurses Association that you follow the State Medical and State Hospital Associations in recommending this plan.

THE TRAINING SCHOOL: I hope I am not intruding on a problem that is, of course, more yours than ours in making a few remarks in reference to the nurses training school.

First of all, I congratulate the State Board of Examiners for Nurses on their excellent program of standardization, in requiring hospitals who run training schools to live up to a minimum standard which they have adopted. I whole-heartedly approve the program. A rather large per cent of the hospitals of Mississippi is running training schools in connection with the hospitals.

Should an approved, well regulated, fully equipped hospital, even though it be small, have sufficient patients to meet the requirements of your Board of Examiners for Nurses, and have a sufficient number of graduate nurses to supervise well all students, and to supervise the operating room, and to give the students the proper training in the theory and practice of nursing, with the cooperation of the medical staff, my opinion is that such a hospital can be run efficiently, more economically, and with a greater degree of cooperation by using student nurses.

I have been informed that there is a sentiment in your organization, as well as in the National Nurses Association, to gradually eliminate the training schools of the small institutions. One reason advanced for this, if I understand the situation, is that there is not enough clinical and medical material, a variety so to speak, to give the student nurses sufficient training. I have been told that there is another reason, namely, that there are too many nurses, that the supply is greater than the demand.

Now, ladies of the Nurses Association, as I have already stated, I approve whole-heartedly the plan that has already been adopted by the Mississippi State Board of Examiners for Nurses in requiring certain standards for hospitals running training schools. I congratulate you on adopting the standards that you have already adopted, and I insist that you require the institutions of Mississippi to live up to these standards, and to take the training school privilege away from all hospitals that do not live up to these standards. I hope, however, that you will not go too far in your program by eliminating the training schools of the efficient small hospitals. The fact is, when you come to think of it, Mississippi has no very large institutions. My observation of the nurses of Mississippi, most of whom are from small hospitals, is that they are fully an average class. In fact, my personal experience is that their work is superior to many of those graduating from large institutions. I

DRS. O. S. McCOWN — O. S. McCOWN, JR.

GYNECOLOGY—UROLOGY—SURGERY

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asked one of the leaders of your profession a year ago, in discussing this matter, if she were going to employ a nurse for her institution, would she seek one from a hospital of several hundred beds or would she prefer one of her own graduates. She said she would prefer one of her own. That has been my experience in this matter.

In our own institution, which is located in a small county site, we have graduated during the past ten years about 30 nurses. I have kept in touch with these girls since their graduation, and with the exception of those who have gotten married, very few of them have gone without work. I do not believe any of them who have made any attempt whatever to secure a job have lost one month in a year. Today there is not a single one of these girls who is in a position to hold a job at all who does not hold a salaried position. Some eleven of them are here today and can testify to this. Now, I do not consider this at all due to any excellency on the part of our institution. It is, I suppose, a poor average. I simply mention this because of the second reason advanced, that the hospitals are turning out too many nurses. It may be true that a good many nurses have been out of jobs during the era of the depression. On the other hand, many other classes of people in all professions have also been without jobs.

So I would suggest that rather than eliminate the efficient small training schools, that you insist or require that the graduates of all hospitals in Mississippi take a few months post graduate course in some of the large institutions of the country which offer such courses. More than half of the graduates of our own institution, who have continued to work after finishing training, have taken post graduate work. We always encourage this, and I think most of them have profited by it. It is well to remember, however, that post graduate courses are offered mainly in charity hospitals, and the patients of these institutions are as a whole an inferior class, and I always advise my folks who take these courses to be exceedingly careful and not to get indifferent or unsympathetic or careless because of their dealings with a class of patients peculiar to these institutions, and that I expect them to come back home not only with more experience in the practice of nursing because of coming in contact with a greater variety of diseases, but to treat patients as human beings regardless of their social status in life.

Ladies of the State Nurses Association, I say again I deeply appreciate appearing on your program, and congratulate you on the progress you are making in the nursing world.

With the exception of about six months of my own professional life, my practice has been confined entirely to hospital work. I have, therefore, been associated constantly with the nursing profession. I have learned through these many years of association with your profession that as a rule you do not neglect sick people entrusted to your care; you learn and remember the germ theory as a cause of disease, and the importance of asepsis and the dangers of live bacteria; you never neglect the details and fundamentals of surgical preparation, which is left entirely to you; regardless of how tired you may be, you spend many sleepless nights doing your bit in assisting the physician to save human lives; you are

loyal to the institution with which you are associated, truthful and respectful to the medical profession, you cooperate well with them and the State Board of Health in the prevention of disease. In fact, my estimation is that yours is the greatest profession a woman can follow.

You, as well as the medical profession, may err in the journey through life. You, as well as we, make many mistakes, but my opinion is that when we have fought our last battle for the prevention and cure of disease that the Greatest Healer of all, the Creator of man, as well as the lowest form of life, and who knows us far better than we know ourselves, and who recognizes the many causes of disease as yet unknown to man, will forgive our shortcomings, and say to us in the language of the Master, "Well done, good and faithful servant; thou hast been faithful over a few things, I will make thee ruler over many things: enter thou into the joy of thy Lord."

Report of Deaths of Mississippi Physicians

Dr. L. H. Lamkin, Natchez, February.
Dr. James E. Dunlay, Schlater, March.
Dr. M. Winter Jackson, Water Valley, March.
Dr. F. E. Collins, Brookhaven, April.
Dr. T. O. Douglass, Eupora, April.
Dr. P. C. Overstreet, DeKalb, April.
Dr. W. F. Henderson, Jackson, April.

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Here is the picture of the Jackson County Hospital that we have heard so much about. You are observing this picture through the courtesy of the Chronicle-Star. We appreciate this favor. We asked Dr. Ladner to furnish us some facts about this hospital. They are so well and so interestingly written that we are simply publishing his letter of information. No doubt many of you will wish to visit this hospital while you are in Biloxi attending the State Medical Meeting. The building looks good and what is written sounds good. Doctors are no more able to invest big sums in hospitals than lawyers are to build court houses, teachers schools buildings, and preachers churches.

Dr. W. H. Anderson,
Booneville, Miss.,

Dear Dr. Anderson:

Agreeable to our conversation of yesterday, I am forwarding to you under separate cover, a cut of the Jackson County Hospital secured from the local newspaper, The Chronicle-Star, in case you want to give them recognition for its use.

Some of the facts concerning this Hospital are as follows: It was formally opened February 1st, 1931, and has been in continuous operation ever since. It the first County owned and operated hospital in the State of Mississippi. It is operated by a board of five directors, appointed from the various beats of the County with overlapping terms, the appointment being for five years, thus providing a board a majority of which has had several years experience.

Politics is not allowed to enter into the control or functioning of the hospital. During the first year of its operation, it was for some months almost self supporting, and at no time has it exceeded its allowance of \$500.00 a month from the County. There has been a noticeable improvement in the quality of the medical service rendered, both inside and outside of the Hospital.

The Staff consists of the licensed, white medical

doctors and dentists of the County. The active Staff is composed of those who are interested enough to attend the monthly staff meeting. Each doctor looks after his own patients, both charity and paid. Prices range from \$2.00 per day for a ward bed to \$4.30 per day for a room with private bath. Charity patients receive ward accommodations. All beds are double crank beds and are furnished with Beauty-Rest mattresses. It is heated by a low pressure steam system, with the exception of the nursery which is heated by a radiator through which water from the hot water tank circulates in order that this room may be heated both summer and winter as needed. Both the nursery and the delivery room are sound proof. It is equipped with laboratory and x-ray departments. The capacity is twenty-five beds, which can be increased to thirty as conditions warrant.

It is staffed by a superintending nurse and assistant who is also an anesthetist, and two or more additional nurses according to need. The operating room is of a special design and has elicited favorable comment from visiting surgeons. It is equipped with a Ben Morgan Anesthesia machine, and a special ventilating system which eliminates drafts.

This Hospital was built, equipped and the grounds landscaped for less than \$45,000.00. Already many lives have been saved, owing to the accessibility of this institution.

I hope that the sketchily outlined statements above will give you the information you desire. If not, any additional information will be supplied on request. I am being held personally responsible for this cut and hope that it can be returned to me in good shape as soon as you have finished with it.

Thanking you for your interest, and with every assurance of local support for your journal project, am,

Sincerely and fraternally yours,

R. G. LANDER, Director
Jackson County Health Department.

Eclampsia*

A. G. LeROY, M.D.
Booneville, Miss.

Eclampsia is not a disease itself but is only an outstanding symptom of several underlying diseases. The word eclampsia means to flash or shine out and was introduced about the middle of the 18th century. Hippocrates, however, mentioned convulsions occurring in pregnant women and noticed they most often occurred in those who had headache and a tendency to sleep. In most of our literature eclampsia is discussed under the general heading of toxemias of pregnancy, but in this paper I shall confine my discussion to this great symptom complex alone with special reference to prevention and treatment.

Eclampsia seldom occurs before the latter half of pregnancy, however, sometimes it does appear earlier and a case was reported as soon as the sixth week of gestation. Our course, we may have cases of convulsions and coma occurring during pregnancy due to extraneous medical causes such as epilepsy, hysteria, meningitis, tuberculosis, syphilis, etc., but there are usually certain pre-eclamptic signs and symptoms that will help in our diagnosis. This pre-eclamptic state frequently spoken of as eclampsism will in most instances serve to warn us of on-coming danger so that effective preventive measures may be instituted. Patients, however, have been known to die of eclampsism or get well without convulsions or coma. On the other hand a patient may, without these signs of warning, suddenly developed eclampsia, such occurrence frequently proving fatal to the patient.

DeLee suggests a classification of diseases which most commonly underlie the symptoms of eclampsism. First: the true toxemia in which he believes the liver is primarily damaged by circulating poisons and the kidneys and vascular system are secondarily involved. Second: acute nephritis which is brought on most frequently by the toxins of pregnancy or by some focal infection as abscessed teeth, tonsillitis, pyelitis, cervicitis, etc. Third: chronic nephritis, where the added strain of pregnancy becomes too great for previously damaged kidneys. Fourth: malignant hypertension—the added burden of pregnancy upon the vital organs which govern the arterial tension. Using the above classification the nephritic eclampsia or acute nephritis with eclampsia is probably the most common.

We are doubtless all more or less familiar with the pre-eclamptic state. I will mention a few of the outstanding symptoms including in this symptom-complex. In general the patient may complain of debility, a tendency to nervous excitation, or to drowsiness. There may be slight mental confusion, giddiness, muscular twitchings and cramps in the legs. There frequently is a loss of appetite or a distaste for certain foods. A little later there may be a dullness of intellect, visual disturbances, spots before the eyes, dimness of vision, or even total blindness. Ringing in the ears or deafness may occur. Headache is usually a very definite symptom. Nausea and vomit-

ing and pain in the epigastrium are frequent late symptoms and may precede a convulsion by only a few hours.

The treatment of eclampsia is all empiric since we do not know its etiology. This being true, much more can be accomplished by prevention than by treatment. Careful watching of the pregnant woman and an eager eye to discover the first slight symptom of any toxic condition may save the doctor of a very dreaded condition and a lot of work and worry later. A thorough examination of every pregnant woman as soon as the pregnancy is discovered with special notice for any elevation of blood pressure from normal or any albuminuria is very important. Simple dieting may at this stage be all that is needed. Prevention of overweight of the patient is also important. Removal of any foci of infection as may be found in the teeth, tonsils, etc., is a great preventive measure. As one author suggests—the extraction of a decayed tooth will not likely terminate a pregnancy but if such a tooth is allowed to remain it may cause an abortion, or may be responsible for a much more serious condition later in the pregnancy. If in our preventive measures we cannot prevent eclampsia we can terminate the pregnancy and will by this measure very likely avoid a fatal issue.

The treatment of eclampsia or management of the acute convulsion is varied a great deal by different authorities. Briefly speaking there are two general modes of treatment—the conservative and the radical. Needless to say the latter, or the operative procedure, is rapidly coming into disuse, except of course, where there is a real obstetrical condition. Anything else that I might say of this method would be to condemn it as a routine procedure.

The conservative treatment, then, is the method of choice and is more and more coming into general use. The following is an outline of the procedure of treatment that we follow at the Anderson Clinic: 1. Patient is placed in a quiet darkened room and is disturbed as little as possible. Any undue noise or moving of the patient or even disturbance as jarring the bed may bring on a convulsion. 2. There should be a nurse continually with the patient until she is definitely out of coma. 3. Blood pressure should be taken every hour to watch for any increase rise. 4. Twenty cc. of 10% magnesium sulphate is given intravenously and repeated every hour until convulsions are controlled. Frequently one or two doses are all required. The regular blood pressure readings will tell us when to give more. DeLee says that mag-

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*Read before the Northeast Thirteen County Medical Society, West Point, Miss., March 19, 1935.

nesium sulphate given intravenously is dangerous and suggests intramuscular injection. Most authorities, however, agree that if injected slowly and cautiously there are seldom any serious effects to occur. As many as six injections within ten hours time was safely given by one man. Personally I have given six injections within about twelve hours time with no ill effects in the patient apparently. The use of 50% magnesium sulphate given in 5 cc. doses intramuscularly is generally conceded a very safe and effective procedure to prevent the return of convulsions. This may be repeated every hour for several doses if necessary. 5. To mitigate the convulsions and prevent the restlessness usually present following a convulsion we use sodium amytal gr IV intravenously or intramuscularly, every three or four hours as necessary. Many use morphine, gr. $\frac{1}{4}$ to $\frac{1}{2}$ with atrophine gr. 1-150 instead of amytal. We give an initial dose of morphine gr. $\frac{1}{4}$ and atropine gr. 1-150 before beginning any treatment—a plan that seems to work very well in helping get the patient relaxed and quiet. The use of morphine exclusively, however, as often as may be necessary is thought to endanger the well being of a live fetus. 6. If there is much edema of the patient, which is frequently the case in the nephritic type especially, intravenous glucose should be given 250 cc. to 500 cc. of 20% may be given every three to four hours not to exceed 2500 cc. in one day. This restores the proper water balance of the blood and promotes diuresis. 7. Patient should be catheterized every eight hours. This is important I think especially in comatosed patients and may prevent a paralyzed bladder. 8. Patient not to be delivered until cervix is fully dilated and then only the very simplest operative methods should be used. When patient regains consciousness if not delivered only the simplest methods of labor induction are to be considered. Simple rupture of the membranes is frequently effective. Bag induction or catheters may be used. 9. As soon as the patient is conscious and able to swallow, fruit juices well sweetened may be given by mouth. Fluids should be restricted to 30 oz. per day for two to three days. 10. Magnesium sulphate oz. I to II by mouth every three or four hours necessary to get proper bowel elimination should be given after patient is able to swallow. 11. Patient should be kept on low protein salt free diet for several days. Fruits and cereals principally composing the diet.

During the past eighteen months I have observed this conservative treatment for fifty-two cases of eclampsia. Of these there were four deaths or a mortality of about 7.7%. These were all hospital cases and many of them had not been seen by a doctor before admission. Some of them had several convulsions before any treatment was started and one had as many as twenty before treatment was effective. The following are case reports of the last three eclamptics treated at the Anderson Clinic: Case 1. A white primipara, age 18 years, almost at term was admitted to the hospital after having six convulsions, according to the family, during the last six hours before admission. She was first seen by a physician just before being brought to hospital. The previous history of the patient revealed that she was a very "nervous" type all her life and about three years previously she was treated for attacks of convulsions, from history probably epileptiform. The day before

admission patient had suffered with severe headache, spots before the eyes, and complete blindness occurred just before first convulsion. When we first saw her she was in coma and very restless and with difficulty was restrained in bed. There was marked edema of extremities and face. The foetal heart was thought to be faintly heard over the right lower abdominal quadrant. Morphine gr. $\frac{1}{4}$ and atropine gr. 1-150 was given hypodermically on admission. This was followed in 30 minutes by sodium amytal gr. IV intravenously. Next 20 cc. of 10% magnesium sulphate was given by vein and 5 cc. of 50% by muscle. The intramuscular injection was repeated every four to six hours. Sodium amytal gr. IV was given intramuscularly as necessary to keep patient quiet. No more intravenous magnesium sulphate was required. Patient was in active labor on admission and cervix about half dilated. Membranes were ruptured manually and six hours after admission patient was delivered of six pound male apparently dead. The infant, however, was revived and after several "blue spells" during the first 12 hours it gradually came out of it. During delivery I did a wide episiotomy as the patient was in coma and delivery seemed impossible without help. After about 18 hours as elimination did not appear sufficient two oz. of magnesium sulphate was instilled in stomach. The blood pressure at this state had dropped from 180-120 on admission to 140-100. The urine was solid on admission and many granular and hyaline casts were present. On second day after delivery patient had regained consciousness enough to take fluids by mouth and was allowed only fruit juices. Magnesium sulphate was also given by mouth. On third day after delivery patient suddenly became restless and had hard convulsion which lasted about thirty minutes. Magnesium sulphate was given by vein but patient went into deep coma following convulsion and died five hours later. Death was apparently due to cerebral hemorrhage and pulmonary edema. The baby was kept in hospital about three weeks but did not gain weight or thrive as it should. It died about three weeks after leaving hospital of malnutrition and dehydration following a severe diarrhea. No autopsy was done on either mother or child.

Case 2. A white primipara, age 20, at term was admitted to hospital during a convulsive seizure. She had already had two or three definite convulsions just previous to coming to hospital. Two days before this she was seen by her family physician and at that time she was advised to go to bed as she was having some toxic symptoms and was very edematous generally. On admission she was given hypodermic of morphine gr. $\frac{1}{4}$ and atropine gr. 1-150 intravenous, magnesium sulphate 20 cc. of 10% was administered and followed by amytal gr. IV. The general conservative treatment was instituted and on third day after admission patient was delivered of normal male infant. Delivery was normal in every respect and

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occurred after patient had regained consciousness. Blood pressure on admission was 220/140 and twelve hours later was down to 180/120. It gradually fell to 140/90 on dismissal from hospital. Mother and baby were doing nicely and after twelve months are still well.

Case 3. A white multipara, age 32, was admitted to the hospital during a convulsion. She had previously had four or five convulsions during the few hours before admission. The family physician had been summoned only at the onset of the first attack and patient was brought about 20 miles to hospital. Patient was well developed and had recently gained markedly in weight. There was a moderate amount of general edema present. The face was flushed. The fetal heart was not heard. The general conservative treatment as given in other two cases reported above was instituted. Patient continued to have convulsions after intravenous magnesium sulphate was given and about one pint of blood was withdrawn from arm vein. Convulsions ceased immediately but magnesium sulphate was continued intramuscularly. Blood pressure on admission was 210/140; urine contained heavy albumin and many casts. Blood pressure after bleeding was 160/110 and remained within this limit. Twenty-four hours after admission patient was delivered of dead male fetus approximately at term. Delivery was normal, and spontaneous. Two or three hours after delivery patient had moderately severe hemorrhage from the uterus which was controlled by packing. After this patient made uneventful recovery and went home ten days later. In all patient had twenty-one convulsions but none after delivery.

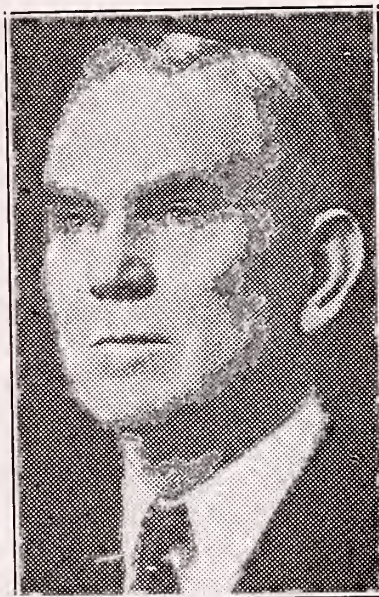
In conclusion I wish to emphasize the importance of the conservative treatment in eclampsia. It is no doubt true that many mothers are saved and probably more live babies are obtained by this method whereas if an operative or radical procedure was used the shock would be too great for both. It is not a complicated line of treatment but requires caution and close attendance on the part of the nurse and doctor. Keeping the patient quiet and promoting adequate elimination are the two chief aims to be accomplished and the use of sodium amytal and plenty of magnesium sulphate will usually do this. The mortality rate of eclampsia usually quoted at about 20% for the mother has been definitely reduced by this method of treatment to as low as 5% in several series of cases reported. It has been said recently that with all our better knowledge of medicine and varied methods of treatment there has been little reduction of mortality in eclampsia during the past hundred years. With the conservative treatment, however, I feel sure we can disprove this statement and with it reduce the mortality greatly.

114 Main St.

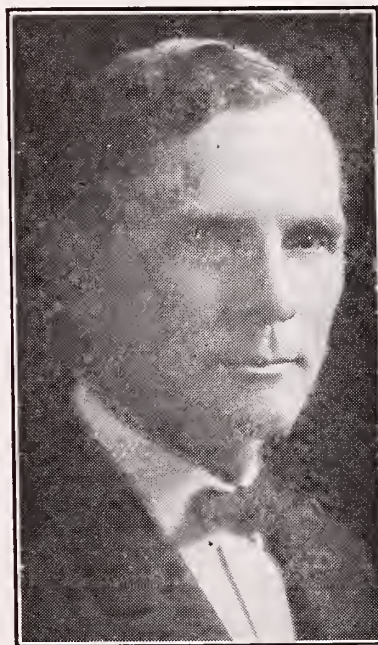
DRS. DUNCAN & FLEMING
I. G. Duncan, B.S., M.D., F.A.C.S.
J. S. Fleming, M.D.
GENITO-URINARY DISEASES
CYSTOSCOPIC and X-RAY DIAGNOSIS
PROSTATIC RESECTION
Suite 1500-06 Commerce Title Bldg.
Memphis, Tenn.

And again we say that we are not making an effective attack on the problem of malaria, nor of appendicitis and many others.

Mississippi State Hospital Association at its last meeting reported fifty-one active members. This is a fine showing for the state of Mississippi.



Dr. Jim Hill, of Corinth, president-elect of the Mississippi State Medical Association. He will be in active charge as president after the close of the meeting at Biloxi on May 16th. Dr. Hill is a well balanced practitioner sincere, safe and sound.



This is a likeness of Dr. T. M. Dye, of Clarksdale, our very efficient secretary. He is the essence of efficiency as a secretary. He has played a big part in building the state association. He is a corner stone in medical ethics. He is diplomatic and obliging.

Program—Mississippi State Medical Association

Officers, 1934-1935

President	E. C. Parker, Gulfport
President-Elect	J. R. Hill, Corinth
Vice President	A. B. Harvey, Tylertown
Vice President	Gilruth Darrington, Yazoo City
Vice-President	R. C. Smith, Drew
Historian	L. S. Lippincott, Vicksburg
Editor	L. S. Lippincott, Vicksburg
Associate Editor	J. S. Ullman, Natchez (1935)
Associate Editor	D. W. Jones, Jackson (1936)
Speaker of the House	J. P. Wall, Jackson
Treasurer	E. L. Wilkins, Clarksdale
Secretary	T. M. Dye, Clarksdale

Luncheon for Ex-Presidents at 12:30 p. m.

Wednesday, May 15, 1935

BUENA VISTA HOTEL

D. J. Williams and W. A. Dearman, Hosts

Executive Business

Tuesday, May 14, 8:00 a. m.

Meeting of Council and House of Delegates

Buena Vista Pavilion

Subsequent Meetings will be Arranged by the House

Order of Business

1. Call to Order
2. Roll Call
3. Reports of Officers: Secretary, Treasurer, Historian, Editor
4. Reports of Committees
5. Unfinished Business
6. New Business
7. Report of Council
8. Report of Nominating Committee
9. Election of Officers
10. Selection of Next Meeting Place
11. Reading and Approval of Minutes
12. Adjournment

General Meeting—First Day

Tuesday, May 14, 1935

PAVILION—BUENA VISTA HOTEL

Session 1:30 p. m. to 6:00 p. m.

Opening Exercises

1. Call to Order President E. C. Parker, Gulfport
2. Invocation Rev. Archie Smith, Biloxi

Section of Medicine

Chas. LeBaron, Chairman, Gulfport

1. Pulmonary Moniliasis (Lantern Slides)—W. A. Dearman, Gulfport. Discussion opened by Henry Boswell and J. A. Beals.

2. Diarrhoeal Diseases and Their Management—C. E. Boyd, Amory. Discussion opened by B. C. Tubb and T. F. Clay.

3. Value of Blood Coagulation Tests—Geo. E. Adkins, Jackson. Discussion opened by Riley Burnett and H. L. McKinnon.

4. Toxemias of Pregnancy—F. L. McGahey, Calhoun City. Discussion opened by Joe P. Evans and J. M. Acker, Jr.

5. Dietary Management of Diabetes Mellitus—Hy-

poinsulinism and Hyperinsulinism—Seale Harris, Birmingham. Discussion opened by J. P. Wall and J. S. Ullman.

6. Electro-Cardiographic Diagnosis of Coronary Occlusion—W. K. Purks, Vicksburg. Discussion opened by T. E. Wilson and G. W. F. Rembert.

7. Renal Tuberculosis (With Case)—R. B. O'Mara, Biloxi and C. H. McCall, Gulfport. Discussion opened by J. W. Barksdale and C. E. Walker.

8. The Right Heart in the Pneumonias—Leonard Hart, Meridian. Discussion opened by W. H. Frizell and Joe E. Green.

Evening Session—Eight O'clock

Tuesday, May 14, 1935

The Public Is Cordially Invited

1. Invocation Rev. Father Peter Kennan, Biloxi
2. Addresses of Welcome:
 - On Behalf of the City of Biloxi, Mayor John O'Keefe
 - On Behalf of the Harrison County Medical Society, G. F. Carroll, Biloxi.
3. Response to Addresses of Welcome President-Elect J. R. Hill, Corinth
4. Tribute to Joseph Goldberger W. A. Dearman, Gulfport
5. In Memoriam By the Secretary
6. President's Address—Highway Accidents in Mississippi E. C. Parker, Gulfport
7. Ewing Fox Howard Oration—The Universal Challenge G. S. Bryan, Amory

Section on Hygiene and Public Health

C. M. Shipp, Chairman, Bay St. Louis

Wednesday, May 15, 1935

PAVILION—BUENA VISTA HOTEL

Session 9:00 a. m. to 12:30 p. m.

1. Periodic Health Examinations—The Failure and Remedy—D. G. Rafferty, Pass Christian. Discussion opened by J. C. Culley and W. W. Crawford.
2. Inoculation and Sanitation in Control of Typhoid Fever—D. V. Galloway, Meridian. Discussion opened by R. E. Schwartz and F. M. Smith.
3. The Prevention and Control of Amebiasis—Col. Charles F. Craig, Tulane University, New Orleans. Discussion opened by L. S. Lippincott and William Krauss.
4. Diagnostic Clinics as Aids in Preventing Tuberculosis, W. D. Hickerson, Sanatorium. Discussion

SHIELDS ABERNATHY, M.D., F.A.C.S.

HORACE D. GRAY, M.D., Roentgenologist

Surgical and Radiological Clinic Equipped with
Radium, Improved Deep Therapy and
Diagnostic X-Rays.

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— Memphis, Tenn.

Special Effort Directed Toward Prevention,
Study and Treatment of Cancer.

opened by W. E. Denman and W. A. Dearman.

Section on Eye, Ear, Nose and Throat

A. G. Wilde, Chairman, Jackson

Wednesday, May 15, 1935

GRILL ROOM, ARCADE—BUENA VISTA HOTEL

Session 9:00 a. m. to 12:30 p. m.

1. Asthenopia and Headache, Not of Ocular Origin (Differential Diagnosis)—Wm. Thornwall Davis, Washington. Discussion opened by Edley H. Jones and H. L. Arnold.
2. Mastoid Complications—Robert E. Parrish, San Antonio. Discussion opened by B. S. Guyton and R. H. Pegram.
3. Foreign Bodies in the Food and Air Passages (Lantern Slides)—Robin Harris, Jackson. Discussion opened by L. S. Gaudet and D. C. Montgomery.
4. A Discussion of the Etiology and Significance of Mydriasis—L. C. Davis, Greenville. Discussion opened by W. A. Stevens and C. C. Buchanan.
5. The Management of Diphtheria—W. A. Johns, Corinth. Discussion opened by C. A. McWilliams and E. LeRoy Wilkins.

An afternoon session will be held on board a boat going and returning from Ship Island. During this trip a "Round Table" informal discussion will be held by Dr. Wm. Thornwall Davis of Washington on "Strabismus" and by Dr. Robert E. Parrish of San Antonio on "Further Mastoid Complications."

Section on Surgery

W. H. Sutherland, Chairman, Booneville

Wednesday, May 15, 1935

PAVILION—BUENA VISTA HOTEL

Session 2:00 p. m. to 6:00 p. m.

1. Management of Labor in the Home—D. A. Ratliff, Columbia. Discussion opened by J. G. Gardner and M. Q. Ewing.
2. Selection Anaesthesia—G. W. Eubanks, Greenville. Discussion opened by R. J. Field and Stanley A. Hill.
3. Transurethral Resection of the Prostate—Paul G. Gamble, Greenville. Discussion opened by M. H. McRae and Temple Ainsworth.
4. The Collapse Program in Advanced Pulmonary Tuberculosis—C. A. Thomas, Tucson, Arizona. Discussion opened by Henry Boswell and J. A. K. Birchett, Jr.

Some Facts Regarding The American College of Surgeons—John Darrington, Yazoo City.

(to be continued Thursday morning)

Section on Surgery

(Continued from Wednesday)

W. H. Sutherland, Chairman, Booneville

Thursday, May 16, 1935

PAVILION—BUENA VISTA HOTEL

Session 9:00 a. m. until completed

1. Hyperthyroidism—A. Street, Vicksburg. Discussion opened by T. E. Ross, Jr., and H. C. McLeod.
2. Resection of the Presacral Nerve for Relief of Pelvic Pains—Frank H. Hagaman, Jackson. Discussion opened by R. H. Cranford and H. L. Rush.
3. The Scope of General Surgery—Geo. F. Carroll, Biloxi. Discussion opened by W. W. Crawford and H. A. Gamble.
4. Diagnosis and Repair of the Pelvic Floor—R. B.

Caldwell, Baldwin. Discussion opened by Geo. W. Wallace and W. H. Anderson.

House of Delegates

Program of the Twelfth Annual Convention

WOMAN'S AUXILIARY

to the

MISSISSIPPI STATE MEDICAL ASSOCIATION

Buena Vista Hotel, Biloxi, Mississippi

May 13, 14 and 15, 1935

Monday, May 13—

7:30 p. p. Executive Board Dinner (85 cents), Sun Room, Buena Vista Hotel.

Tuesday, May 14—

9:00 a. m. Registration, Buena Vista Lobby

12:30 p. m. Luncheon

2:00 p. m. Opening General Session, Mrs. Henry Boswell, presiding. Ground Floor.

Invocation

Addresses of Welcome:

For Biloxi, Mr. Frank E. Bowes, President Biloxi Chamber of Commerce.

For Club Women, Mrs. George Robinson, President Woman's Club

For Biloxi Auxiliary Unit, Mrs. Ira L. Parsons.

Response, Mrs. Augustus Street, Vicksburg.

Introduction of Mrs. J. Bonar White, Atlanta, Georgia, President Southern Medical Auxiliary.

Reports from A. M. A. and S. M. A.

Reports from Auxiliaries, Councilors and Officers

Announcements, Mrs. G. F. Carroll, President Biloxi Auxiliary.

Announcements of Committees

Recommendations of Executive Board

Wednesday, May 15—

8:00a. m. General Session, Mrs. Boswell presiding

Invocation

Reading of Minutes, Mrs. Adna G. Wilde, Secretary

Report of Committee of Constitution Revision, Mrs. John Beals

Report of Public Relations Committee, Mrs. W. C. Pool

Opening of Prize Essays

Report of Preventorium Fund Chairman, Mrs. D. J. Williams

Greetings from Dr. E. C. Parker and Dr. Jim Hill

Address, Mrs. J. Bonar White

12:30 p. m. Past Presidents' Luncheon with Mrs. D. J. Williams Honoring Mrs. White.

2:00 p. m. to 3:00 p. m. Closing Session.

Reading of Minutes

Report of Resolutions Committee

Report of Courtesy Committee

Report of Nominating Committee

Introduction of New Officers

Adjournment

4:00 p. m. Tea at Veterans' Home, Biloxi Ladies Hostesses.

THOMAS D. MOORE, M.D.
UROLOGY and UROLOGIC SURGERY
Suite 102-6
Physicians and Surgeons Building
899 Madison Avenue
Memphis, Tennessee

Sixth Annual Session
Mississippi State Hospital Association
Officers 1934-35

PRESIDENT

V. B. Philpot, M.D. Houston

VICE-PRESIDENT

H. A. Gamble, M.D. Greenville

SECRETARY-TREASURER

Leon S. Lippincott, M.D. Vicksburg

BOARD OF DIRECTORS

V. B. Philpot, M.D. Houston

H. A. Gamble, M.D. Greenville

Leon S. Lippincott, M.D. Vicksburg

R. J. Fields, M.D. Centreville

J. Gould Gardner, M.D. Columbia

Monday Morning—May 13, 1935

All members of the Mississippi State Medical Association are cordially invited and urged to attend all session including the banquet.

8:00 a. m. Registration—Buena Vista Hotel

9:00 a. m. Meeting called to order by President, V. B. Philpot, Houston Hospital, Houston—Pavilion, Buena Vista Hotel

Invocation

Roll Call

Reading of Minutes of Last Meeting

President's Address

Report of Board of Directors

Report of Secretary

Report of Treasurer

Announcements

Introduction of Guests

Unfinished Business

Reports of Committees (Each to be followed by Round Table Discussion)

1. COMMUNITY HOSPITALS—Dr. J. R. Hill, Corinth, Chairman. Discussion opened by Dr. W. H. Sutherland Northeast Mississippi Hospital, Booneville, and Mrs. J. Oridge, R.N., Holmes County Community Hospital, Lexington.
2. LEGISLATION—Dr. J. Gould Gardner, Columbia Clinic Hospital, Columbia.

Resolutions

WHEREAS the Mississippi State Hospital Association, together with the Hospital Associations of our sister States of Alabama, Louisiana and Tennessee, whose problems are identical with ours, in annual session assembled, did enjoy the fellowship, co-operation, the privileges and the benefits of meeting in conjunction with the Mississippi State Medical Association, and

WHEREAS it is the belief of this Association that such meetings are mutually valuable in solving many problems which especially in Mississippi are common to hospitals and the practice of medicine,

BE IT THEREFORE RESOLVED that the Mississippi State Hospital Association does hereby extend to the Mississippi State Medical Association its thanks and appreciation for the courtesies of this valuable contact and pledge to the Mississippi State Medical Association its continued loyalty and best efforts to improve the hospitals of the state, always keeping in

mind the best interests of patient, doctor and nurse.
(Signed)

W. H. FRIZELL

A. M. McCARTHY

W. J. ANDERSON

Unanimously adopted May 7, 1934.

Monday Evening, May 13, 1935—6:45 p. m.

BANQUET—BUENA VISTA HOTEL

DR. V. B. PHILPOT, Houston Hospital, Houston, President Mississippi State Hospital Association, Toastmaster.

Speakers

DR. BERT W. CALDWELL

Executive Secretary, American Hospital Association, Chicago, Illinois

DR. JUSTIN F. KIMBALL

President, Baylor University, Dallas, Texas

DR. B. C. MacLEAN

Touro Infirmary, New Orleans, President, Louisiana Hospital Association

Monday Afternoon, May 13, 1935—2:00 p. m.

Joint Session of the Hospital Associations of Louisiana and Mississippi

PAVILION—BUENA VISTA HOTEL

Dr. Louis J. Bristow, Southern Baptist Hospital, New Orleans, Vice-President, Louisiana Hospital Association, Presiding.

1. SOME OF THE EVERY DAY PROBLEMS OF A GENERAL HOSPITAL—Dr. C. I. Sibiey, Baptist Hospital Birmingham, Alabama Hospital Association, (By Invitation).
2. THE VALUE OF MEDICAL RECORDS—Miss Helen Robinson, City Hospital, Little Rock, Arkansas Hospital Association, (By Invitation).
3. CHOOSING STUDENTS FOR SCHOOLS OF NURSING—Miss Mabel Pittman, R.N., Vicksburg Sanitarium, Vicksburg. Discussion opened by Mr. Crawford McGiveran, Vicksburg.
4. GROUP HOSPITALIZATION AFTER SIX YEARS' EXPERIENCE—Mr. Bryce L. Twitty, Baylor University, Dallas, Texas, (By Invitation).
5. THE AMERICAN COLLEGE OF HOSPITAL ADMINISTRATORS—Mr. J. Dewey Lutes, Director-General, Chicago, Illinois, (By Invitation).
6. Adjournment.
8. NURSES AND NURSING—Dr. A. Street Vicksburg Chairman. Discussion opened by Mr. W. H. Martin, King's Daughters Hospital, Greenville, and Miss Sue Collins, R.N., Biloxi Hospital, Biloxi.
9. CONSTITUTION AND BY-LAWS—Dr. W. H. Frizell, King's Daughters Hospital, Brookhaven Chairman. Discussion opened by Dr. T. M. Dye, Clarksdale Hospital, Clarksdale, and Dr. R. D. Sessions, Natchez Sanatorium, Natchez.
10. PUBLICATION—Dr. Leon S. Lippincott, Vicksburg, Chairman. Discussion opened by Dr. W. H. Anderson, Booneville, and Dr. J. K. Avent, Grenada Hospital, Grenada.

PERCY B. RUSSELL, JR., M.D.

Practice limited to

OBSTETRICS

915 Madison

Memphis, Tennessee

New Business

Report of Nominating Committee and Election of Officers

Adjournment

The Louisiana Hospital Association will meet separately at the same time.

Chairman. Discussion opened by Dr. J. W. Moody, Charleston Hospital, Charleston, Miss Mary E. Cook, R.N., Tupelo Hospital, Tupelo, and Hon. W. I. McKay, Vicksburg.

3. CHARITY HOSPITALS—Dr. G. Lamar Arrington, Meridian, Chairman. Discussion opened by Dr. L. W. Brock, McComb Infirmary, McComb, and Dr. E. S. Bramlett, Bramlett Hospital, Oxford.

4. INSANE HOSPITALS—Dr. J. M. Acker, Jr., Mississippi State Hospital, Whitfield, Chairman. Discussion opened by Dr. R. R. Welch, East Mississippi State Hospital.

5. MEMBERSHIP—Dr. E. LeRoy Wilkins, Clarksdale Hospital, Clarksdale, Chairman. Discussion opened by Dr. W. W. Crawford, South Mississippi Infirmary, Hattiesburg, and Dr. Thomas Wolford, Columbus Hospital, Columbus.

6. PUBLIC RELATIONS—Dr. V. B. Martin, Martin Sanitorium, Picayune, Chairman. Discussion opened by Dr. E. C. Parker, King's Daughters' Hospital, Gulfport, and Dr. C. E. Catchings, Woodville.

7. MINIMUM STANDARDS—Dr. W. Jeff Anderson, Anderson Infirmary, Meridian, Chairman. Discussion opened by Dr. L. B. Morris, Macon Hospital, Macon, and Dr. E. W. Holmes, Winona Infirmary, Winona.

Tulane Post Graduate School of Medicine

Editor: May I have space to say that the Tulane Post Graduate School of Medicine is now giving the most thorough course to the general practitioner that can be had anywhere in the south and I will also say for any part of the country as well.

The work is so well arranged that you are interested and busy every hour in the day. You are asked almost every day if the work is what you want, what you need in your practice, if you have any suggestions to offer, any complaints to make. The faculty keeps in constant work to see if it can give each individual doctor just what he needs in his practice. The Tulane faculty is certainly practical and it certainly tries to fit the work to your need. This school has an abundance of material and it is using it to the very best advantage to help each doctor in his work when he gets back home.

I would like to give you an analysis of the faculty but I can not recall anything that I can fuss about and it will take too much space to compliment them as I think they justly deserve. If you do not believe all that I say good about them just go down and stay a few months and I know you will be convinced. If you are not I will argue it out with you and show you where you are wrong.

I might say a lot more about this group if I were not in it. Leaving out myself, I will say that it is the best and hardest working class of Mississippi men who have ever attended this school. They went after their work like it was good LIKKER, every man be-

lieving the work he got will make him much abler to render valuable service to those depending upon him.

We want to congratulate in advance those who may have fellowships coming to them in the future. The work will certainly be worth your while. I am sure the medical profession does not realize yet just what the Commonwealth Fund is doing for us in Mississippi. I feel that the most of the men receiving this Fellowship will return for Post graduate work within the next two or three years. They should keep it up from time to time and I believe they will. We certainly had a fine course, fine class, wonderful surroundings in which to work and learn the practical things that we needed to bring back home with us.

The black sheep of the class,

R. B. CALDWELL.

Whiskey has many defenders, but no defense—Lincoln.

Nurses' Association Organized

The Thirteen Counties Nurses Association has been organized with the following officers: Miss Mary E. Cook, Tupelo, President; Miss Bessie Geiseer, Tupelo, First Vice President; Miss Eddie Lee Mosley, West Point, Second Vice President; Miss Ann Sanders, Houston, Secretary; Miss Eddie Muse, Tupelo, Treasurer. This Association meets every three months. The next meeting will be held in Oxford, at Oxford Hospital on May 8th.

State Examination Notice

The Mississippi State Board of Health will hold Examinations for license to practice medicine at the New Capitol, Jackson, Mississippi on June 25 and June 26, 1935.

Examination on first two years—June 25. Send or bring Certificate for verification.

Examination on last two years—June 26. Send or bring Diploma for verification.

Write for Application Blank to R. N. Whitfield, M.D., Assistant Secretary, Jackson, Mississippi.

FELIX J. UNDERWOOD, M.D.,

Secretary and Executive Officer.

You should know whether the urine of the expectant mother contains sugar before she is expectant.

The True Economy of Dextri-Maltose

It is interesting to note that a fair average of the length of time an infant receives Dextri-Maltose is five months: That these five months are the most critical of the baby's life: That the difference in cost to the mother between Dextri-Maltose and the very cheapest carbohydrate, at most is only \$6 for this entire period—a few cents a day: That, in the end, it costs the mother less to employ regular medical attendance for her baby than to attempt to do her own feeding, which in numerous cases leads to a seriously sick baby eventually requiring the most costly medical attendance.

Monroe County Health Dept.

Aberdeen, Mississippi

C. H. LOVE, M.D., Director

Narrative Report for March, 1935

During this period fifty (50) administrative visits were made to officials, property owners, and others in reference to disease control, sanitation and other phases of work which was to be done through the month.

Communicable diseases reported were very few. Only one case of scarlet fever was reported and this case was visited, isolated, and quarantined along with the the other members of the family. No new cases of diphtheria, smallpox, and typhoid fever were reported.

Negro schools, thirty (30) in number, were visited for typhoid immunization. Seventy-eight (78) visits were made to these schools and one thousand one hundred and one (1,101) children were immunized against this disease. No diphtheria immunization program was carried on and no school examinations were made in the white schools, due to the fact that this work has been completed and reported in past narratives.

The pre-natal or antepartum program was continued and conferences held are growing monthly. Such conferences were held this month in Prairie, Hamilton, Sulphur Springs, Strongs, Binford, Smithville, and Aberdeen. All patients who attended these conferences were referred by midwives or physicians. They were given physical examinations, including blood pressure, heart and lung, urine analysis, and blood Wassermanns when history of infection was given. The following is a summary of this phase of work.

New individuals admitted	38
Visits made by Nurses to expectant mothers	20
Examinations made	38
Visits made to Nurses in office	18
New individuals admitted to Medical Service, postpartum	3

Ten of these antepartum cases were referred to their family physicians for attention and one postpartum was placed in the hands of a physician for treatment.

Ten (10) new cases of tuberculosis were reported and these cases were all visited along with thirty-seven (37) field visits to cases already reported.

The Sanitation Program, especially that of excreta disposal, has taken quite a bit of time with the following report given:

Inspection of schools	76
Inspection of excreta disposal, private homes	51
New concrete privies installed	10
Privies moved and restored to sanitary type	37
The construction, removal and restoration of the privies was done by labor furnished by the FERA.	

The laboratory has continued to give service as in the past and all kinds of examinations made. Such work will be noted in the summary report.

In conclusion we wish to advise that this narrative does not cover all the work done by the Health Department for the month of March, but only some which we think will be of interest to the public.

STATISTICAL SUMMARY FOR THE MONTH OF MARCH

MEDICAL AND NURSING DIVISION

Administrative visits	50
Visits to Communicable diseases	9
Venereal disease examinations	9
Examined for CCC Camp entrance	77
Tuberculosis cases admitted	10
Visits to tuberculosis cases	47
Expectant mothers examined	38
Field visits to expectant mothers	18
Post partum mothers examined	3
Infants admitted to Medical service, examined	8
Visits to infants	24
School children inspected for communicable disease	50
Visits to school children	33
Immunizations	
Typhoid fever	1,214
Diphtheria	31
Smallpox vaccinations	26

DIVISION SANITATION

Administrative visits	33
Complete inspection of private premises	55
Inspections of schools	76
Inspection of excreta disposal systems, private	51
Inspection of food handling establishments	32
Inspection of barber shops	7
Concrete riser privies installed	10
Privies moved and restored to sanitary type	37

LABORATORY SERVICE—Specimens Examined

Malaria	84
Tuberculosis	20
Gonorrhea	18
Syphilis (State Hygienic Laboratory)	9
Diphtheria	8
Intestinal parasites	8
Urinalysis	356
Miscellaneous	496

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Mrs. Bonar White of Atlanta, Ga., President of Medical Auxiliary to S. M. A., send us the following brief:

AN AUXILIARY SHOULD KNOW THAT:

A Medical Auxiliary serves the Medical Profession and through it the public. Such service is satisfactory, because it is unselfish. An Auxiliary is always organized with the permission of the Medical Society and should have an Advisor or Advisory Committee to direct it. The Auxiliary should make an annual report to its Society and undertake no new project without approval.

The principal functions of an Auxiliary are: health education, public relations, législation (reserve force), philanthropy, social.

The laity requires education, but it should be

Compliments of

DR. JOHN P. HENRY

Suite 2005-6-7 Sterick Building

Memphis, Tenn.

given through the Medical Profession, so there may be rational control of what the public thinks and does in health activities. Most important objectives of an Auxiliary are to direct public thinking and actions in channels the Medical Profession desires and to extend authentic information on health. We support an organization only when we are a member and understand the tasks and objectives and how to accomplish them. An Auxiliary member, therefore, should attend as many meetings as possible, so she may:

1. Understand the purposes and objectives of her Auxiliary.
2. Receive the particular charge given by local, state, southern, national.
3. Receive instruction in how to fulfill that charge.
4. Become informed about:
 - a. personal and community hygiene.
 - b. administration of local, state, national health.
 - c. medical and health laws, local, state, national.
 - d. the health of her community.
 - e. communicable diseases; their prevention and control.
 - f. her health in relation to her community.
 - g. general problems of health all should know.
 - h. approved educational material; where to obtain it.
 - i. the development of the Medical Arts.
 - j. why the A. M. A. urges the promotion of Hygeia; how done.
 - k. what legislation the Medical Society sponsors; why; how the Auxiliary acts as a reserve force; what the individual may do.
 - l. philanthropic work related to the Medical Profession; service by her Auxiliary; what her Auxiliary is doing; why.
 - m. what lay organizations are doing in her community.

HOW DOES A MEMBER SUPPORT HER AUXILIARY?

- By: 1. Paying dues.
2. Attending meetings.
 3. Accepting offices, chairmanships, in other organizations, especially those related to health, so
 - a. informed speakers may address them.
 - b. approved material may be given.
 - c. program and projects be undertaken which are scientifically sound.
 - d. so she may keep informed about medical matters and activities in other organizations.
 - e. report to her President and Society, programs and projects which are unwise and unacceptable; report to be made through Advisors.
 4. Promote good fellowship by affability at meetings; by attendance at entertainments and conventions; by assisting as requested.
 5. By fulfilling the charges given through the Advisors.

The busy wife is an asset to the Auxiliary, if she is an INFORMED MEMBER, because she has many opportunities to carry the aims and decisions of the Medical Profession and keep health leadership where it belongs — **with the Profession**. As a member, she

may speak with authority, receive respect and attention that will be missing as an unattached doctor's wife. It is not necessary to partake of every phase of Auxiliary work to be a good member, only what one can do. She should know when to keep quiet, when to report to Advisors; when to answer and what to say.

If for no reason but to assemble regularly and study the history of the Medical Arts and the Medical Heroes, an Auxiliary would be worthwhile, because it would give wives an understanding of the supreme unselfishness and the greatest of the Professions.

The time has come when the Auxiliary has so proved its worth that the question is not, "Are you an Auxiliary member?" but "Why are you not a member?"

The Education of the Nurse From the Viewpoint of the Small Hospital

MISS ANN L. SANDERS, R.N.
Houston, Miss.

The large hospitals certainly have the advantage of numbers and variety of patients but the small hospital, if the proper educational advantages are furnished, also has its place. The student comes in closer contact with the patient and his family. They are individuals. The instructors have the advantage of closer supervision and intimate contact with a smaller group of students.

The students in the small hospital in most instances know personally the families and patients they serve, and take personal interest in their recovery, and their social and domestic problems. It behooves these nurses to give the best that is in them. Their pride, if nothing else, keeps them filled with the desire to please and thus to be a comfort to the patient. The aim of the intelligent, honorable young woman is to prove to the patients and their friends that she is better than other nurses with whom she competes. Education and skillful technic are not the only qualifications of a good nurse. We realize with education comes understanding, tolerance, kindness, and sympathy. Elbert Hubbard gave his idea of education in this statement, "When we open a school, we close a prison."

This day and time the public is demanding sympathetic nursing care. I do not mean to infer that the patient in the large hospital does not get this sympathetic nursing care, but I do know the patients in these hospitals do not get the care the nurses would like to give them, they are often just cases as No. 210 or 514 or they are the man with the broken leg or the woman with the eye operation. The nurse may know all the pathology, diagnosis, and prognosis

DR. Wm. F. HAND
Gynecology and General Surgery
519-21 Standard Life Bldg.
Jackson, Miss.

of her patient and should, but the patient craves sympathy and individual attention. I have known patients often times to be dissatisfied with well qualified, and highly trained nurses due to the fact that they lack that important quality of sympathy.

To keep our respect and confidence in small hospitals, we cannot be too careful in the selection of our students. We must select students who have a conscientious devotion to their work. They must like people rather than things. The selection of students cannot be made from a mere application blank or from the suggestion of some member of the medical staff which is so often done. Most states have a law that all students must have a high school education but not much has been said about the quality of work done in high school, or the type of work selected by the young woman. The superior students will make better nursing students. Resourcefulness is a great asset to the nurse. The routine student does not usually have it to so great an extent and does not make the best nursing student, although it is usually thought so and they are often selected. I think every superintendent of nurses should have a personal interview with each student before she is accepted into the school. She should study the character and determine from her appearance, and conversation whether she really wants to be a nurse or whether she is taking up the work for a mere livelihood. I am afraid this is true of too many nurses, some of the worst failures are due to the fact that nurses do not like to nurse. Some one has said that our profession is gradually degenerating into a job. Back in the centuries hospitals were conducted almost solely by religious orders, one of the corporal works of mercy to care for the sick, although unaided by education and special training, they had the spirit. Today I am afraid we are getting more or less away from the spirit and clinging too steadfastly to the education and training.

However, I am frank to say that I have no patience with the small school that does not give the student all the educational advantages necessary to qualify her for the best in her profession. I think the time is coming when all small schools will be compelled to affiliate with a large school in certain phases of training that are not given in this particular school.

The grading committee of the American Nurses Association has recently made a survey and recommended that the smaller schools discontinue their training schools and use a graduate staff. There has been much discussion as to the advantages of using student or graduate staff. There are advantages and disadvantages for both. Dr. McEarchern of Chicago who has been in the hospital work for a number of years says, "This is a question which should be seriously considered since frequent changes in personnel affects service and cost." The training school furnishes a stable force of nurses who can be depended on to be always available. There are always an abundance of applications for admission to a good training school. The student nurse force however has no elasticity, by that we mean a fixed number of students must be maintained and cannot be decreased when patients are few. However, with graduate nurse service the staff can be regulated accordingly, but there has been some dissatisfaction with the graduates, hospitals, say she takes too much into her own

hands, and the chief complaint coming from superintendents of hospitals is that usually they work for only a few months and then want to make a change, therefore disturbing the general routine.

Opinions as to the efficiency of graduate and pupil nurses vary so greatly that it is difficult to draw any conclusions, but we do know that good nursing care can be secured with either by proper selection and good management. I think it is our duty as superintendents of nurses to do our part in the selection and training of nurses in the smaller hospitals.

Problems of Pulmonary Tuberculosis In General Practice

The Commission in Medical Education, in studying the diagnoses reported by a group of general practitioners, finds that the diagnosis of tuberculosis is an uncommon one. Yet in 1931, 80,562 new patients were admitted to the 509 special tuberculosis hospitals in the United States. The reason for this discrepancy between the frequency of tuberculosis in the community and the rarity of its recognition by the general practitioner is not difficult to explain.

Anti-Tuberculosis propaganda and the development of specialists in tuberculosis have produced an apathy on the part of many doctors toward this disease. The family doctor thinks that he no longer sees the cases as he used to. Now they are likely to be recognized and segregated by school physicians, industrial physicians, life insurance examiners, or by some special agency designed to combat the spread of the disease.

Most cases are treated while the disease is active by specialists in special hospitals. The result is that the general practitioner has lost interest in this subject. He has grown careless in the art of history-taking and physical diagnosis, and has washed his hands of the treatment of tuberculosis. This is an unfortunate state of affairs, for the general practitioner, in spite of the trend of the times, should be as keen alive to the clinical problems of tuberculosis as ever. If he is a good doctor, his patients and their families will always eventually return to him for advice, no matter through what special hands they may pass on the way, and he remains their court of last appeal. If he is to give sound advice in regard to tuberculosis he must be familiar with it.

The author then describes several illustrative cases. One was that of a young woman with a clearly defined chronic tuberculosis beginning insidiously and becoming well advanced before it was recognized. While still in the sanatorium she married and soon after was discharged as well. A baby was born. Nine years after her first visit to the clinic, when the baby was five years old, he developed tuberculosis and his mother began to have a slight afternoon temperature.

An alert family physician might well have been

SAMUEL BROOKS CARUTHERS, M.D.
Grenada Clinic, Grenada, Miss.
Practice limited to
Eye, Ear, Nose and Throat
Including Bronchoscopy, Esophagoscopy
and Gastroscopy

the one to advise her in regard to such matters as marriage and pregnancy, to follow up her case, to keep her under supervision and to outline the proper plan of life for her. As it was, the tuberculosis specialist gave her admirable hospital care, yet after she left the sanatorium, neither he nor any one else was concerned with her method of living, and the end-result was a preventable medical calamity. There are too many cases of this description in all our hospitals.

The author has been struck by the number of people with tuberculosis who have come to the Peter Bent Brigham Hospital, and who have been transferred later to tuberculosis hospitals in various parts of the country, whose relations have kept returning to the house officers or staff for subsequent advice involving such questions as the following: Should the sanatorium doctor be allowed to inject air into the patient's chest or to do a more radical operation? Is hemoptysis an ominous sign? How long shall the patient stay in bed, and is the sanatorium doctor right in allowing the patient to get up so soon? Is it proper for the sanatorium doctor to have the patient's tonsils removed? Does the sanatorium doctor know what he is doing? Questions of this sort indicate that the family doctor should and can be a very helpful liaison officer.

Tuberculosis often shows up unexpectedly in young people supposed to be perfectly healthy and with symptoms simulating an acute respiratory infection or as a sudden hemoptysis. Cases of this type are at first seen by the family doctor.

Pulmonary tuberculosis is still so common a disease as to be ever-present, and general practitioners are seeing it frequently, perhaps failing to recognize its significance.

Problems of Pulmonary Tuberculosis in General Practice, Reginald Fitz, M.D., *Annals of Internal Medicine*, Aug., 1933.

Organization of Mississippi State Medical Association—1856

MEETING OF THE CONVENTION

In compliance with the call made for a Medical Convention, for the purpose of organizing a permanent State Medical Association; physicians representing various portions of the State, assembled on the 15th of December, 1856, at the city of Jackson, and organized by calling Dr. W. Y. Gadberry, of Benton, to the chair, and appointing Dr. M. S. Craft, of Jackson, Recording Secretary. The objects for the call of the Convention were briefly and eloquently stated by the Chairman, and Dr. S. C. Farrar, of Jackson.

On motion of Dr. H. Posey, of Brandon, a committee was appointed to draft a Constitution and By-Laws for the government of the Association. The chair appointed

S. C. Farrar, M.D., Jackson

M. S. Craft, M.D., Jackson

A. B. Cabiniss, M.D., Jackson

H. Posey, M.D., Brandon

and C. B. Galloway, M.D., Koscuisko.

Dr. Gadberry was added to the committee, in place of Dr. Farrar, declined.

The convention then adjourned until 3 o'clock.

3 o'clock

The Convention met pursuant to adjournment.

The committee appointed for the purpose, reported the following preamble, Constitution and By-Laws, which were adopted:

Whereas, We believe that the interests and prosperity of the Medical profession, the progress of Medical science, and the elevation of Medical character, as well as the health, welfare and interest of the whole community, require a livelier spirit, a better acquaintance, and extended professional intercourse, and greater and more concerted action on the part of medical men. We do therefore now organize ourselves into an Association, that shall have for its great object the accomplishment of such ends, and adopt for our government the following Constitution and By-Laws:

CONSTITUTION

Art. 1. This Association shall be known and designated as the Mississippi State Medical Association.

Art. 2. Any regular physician of good standing, who shall have graduated at any respectable medical institution, and all physicians who have received the honorary degree of M.D. from a medical school of such character, and who recognize and are governed by the principles and standard authorities of the profession, and conform to its code, as put forth by the American Medical Association, shall be eligible to membership, and none others, save by a unanimous vote of the Association present.

Art. 3. The officers of this Association shall consist of four, a President, Vice President, Recording and Corresponding Secretary and a Treasurer, who shall serve for the term of one year, and who shall be elected by ballot, on the first day of each annual session; a majority of the vote cast constituting an election.

Art. 4. It shall be the duty of the President to preside at all meetings of the Association, to preserve order and regulate the debates and other business according to parliamentary usage; Provided, any member shall have the right of appealing to the Society, from the President's decision, on questions of order.

Art. 5. It shall be the duty of the Vice-President, according to seniority, to perform all the duties, appertaining to the chair, in the absence of the President; but if neither be present, the Society shall elect a member to act as president for that meeting.

Art. 6. It shall be the duty of the Recording Secretary to keep a correct list of all the members of the Association, arranged in the order of their admission. He shall keep accurate minutes of all the proceedings of the Society, including the names of the members in attendance. Such papers of the Association as are not necessarily recorded, he shall preserve in distinct and regular files, holding them always accessible for the inspection of the members.

Art. 7. It shall be the duty of the Corresponding Secretary to notify all members and officers of their election, to write and answer all letters in behalf of the Association, as particular exigencies or the resolutions of the Association may require. He shall read to the Society all communications and answers, which he may have received or made during the preceding recess, and then deliver them to the Recording Secretary.

Art. 8. It shall be the duty of the Treasurer to receive all moneys due the Association, and safely keep the same, subject to disbursement, which shall be done by resolution, or otherwise, as the Association and the members thereof; and immediately preceding each annual election, shall render detailed statements of the business of this department; and shall deliver to his successor, the books; papers, money or other property of the Association, remaining in his hands.

Art. 9. The Association shall hold its session annually, in Jackson, commencing on the second Monday in November, and continue from day to day, until its business be transacted.

Art. 10. Any alteration or amendment in this constitution may be made by a proposition, submitted in writing, to the Association, in regular session; Provided, it be approved by three-fourths of the members present.

BY-LAWS

Section 1. Every candidate for membership, shall before admission, give to the Association satisfactory proof that he possesses the qualifications prescribed by the Constitution.

Section 2. The initiation fee, entitling a physician to all the rights and privileges of membership of this Association, shall be two dollars.

Section 3. The annual contribution, to defray the expenses of this Association shall, be assessed at each regular session.

Section 4. The Association shall, at each regular session for the purpose of investigating special Medical subjects, elect some physician Chairman of the committee, and appropriate to him the subject to be investigated. The chairman shall select his auxiliaries upon the committee from the various counties represented in the Association, but not more than one from each county, and shall require special attention to the subject designated, from each person so selected and a full report of the same to be made to him, in writing, two months before the next regular session; and from such communications the chairman shall make a condensed report to the Association.

Section 5. The Association shall, at each regular session, appoint a committee, consisting of three members whose duty it shall be to receive and consider voluntary contributions from members of the Association, and report such as may be found worthy of publication, subject to the decision of the Association.

Section 6. Any member who shall be guilty of gross misconduct, either as a citizen or member, or shall be palpably negligent of his duty, either as a member or officer of this Association, or shall violate any article of the Constitution, or By-Laws, or Code of Medical Ethics adopted by the National Association shall be liable to reprimand, expulsion or such other censure as the Association may determine; Provided, That no judgment of reprimand, suspension, expulsion, or other censure shall be passed against an offending member, without due notice having been given, and then only by the vote of three fourths of the members in attendance.

Section 7. Any member preferring a charge or charges against another, in the interval of session, shall notify the Corresponding Secretary of the same, in writing, over his own signature; and the Corre-

sponding Secretary shall thereupon furnish the member so charged, with a copy of the charge or charges, and notify him to attend and answer to the same, at the next regular session; and in case of failure to attend, the charge or charges preferred, shall be considered sustained, unless the person so charged furnish good and satisfactory reasons to the Association, for not having attended.

Section 8. Any member may be allowed to withdraw from this Association, by communicating the same, in writing, to the Recording Secretary, and an honorable certificate of the same shall be granted; Provided, there be no charge resting against said member, and his pecuniary indebtedness to the Association be paid.

Section 9. There shall be at each regular session, a committee appointed, consisting of three members, whose duty it shall be to attend to the publication of the proceedings, reports, etc., of this Association.

The Constitution and By-Laws having been adopted, they were then subscribed to by all the gentlemen present.

On motion of Dr. Craft, the following resolution was unanimously adopted:

Resolved, That those physicians who signed the call for this Convention be, and are hereby declared permanent members of this Association, provided the constitutional provisions and restrictions be complied with.

The Association then proceeded to the election of officers.

W. Y. Gadberry, M.D., of Benton, was elected President.

S. C. Farrar, M.D., of Jackson, Vice President.

L. P. Blackburn, M.D., of Natchez, Junior Vice President.

M. S. Craft, M. D., of Jackson, Recording Secretary.

W. B. Williamson, M.D., Corresponding Secretary.

P. T. Baley, M.D., of Jackson, Treasurer.

The Association then proceeded to the selection of Chairman of the committees on special subjects, to report at the next annual session.

Dr. W. B. Williamson, was appointed Chairman of the committee on "The Hygiene of Negroes and Cotton plantations."

Dr. J. W. Selser, of Warrenton, Chairman of the committee on Typhoid Fever.

Dr. M. S. Craft, of Jackson, Chairman of the committee on Pneumonia.

Dr. Wm. Barr, Chairman of committee on the Medical Botany of Mississippi.

Dr. N. J. Bemis, of Rodney, Chairman of committee on Idiopathic and Traumatic Tetanus.

Dr. Magruder, of Vicksburg, Chairman of committee on Yellow Fever.

Dr. D. B. Nailer, Chairman of committee on diseases of "Cervix Uteri."

Drs. Noland, Rodney, and Barnett, of Yazoo City, were appointed the committee on Voluntary Contributions.

The following gentlemen were chosen delegates to the American Medical Association.

A. B. Cabaniss, M.D., Jackson;

J. M. Bemis, M.D., Jefferson County;

Jno. T. Lowe, M.D., Aberdeen;

Oscar Hamilton, M.D., Rankin County;

H. H. Hubbard, M.D., Vicksburg;
M. C. Russell, M.D., Jackson;
L. P. Blackburn, M.D., Jackson;
W. J. Leake, M.D., Yazoo City;
D. Alton, M.D., Aberdeen;

The following gentlemen were appointed "Publication Committee:" Drs. E. Pickett, O. Hamilton, and M. C. Russell.

Five hundred copies of the proceedings of this convention were ordered to be published.

On motion of Dr. Hamilton, the thanks of the convention were unanimously tendered the President and Recording Secretary, for the faithful and efficient discharge of their duties.

The convention then adjourned to meet on the 2nd Monday in November, 1857.

Mississippi Post Graduate Class Tulane



Bottom row, left to right: Dr. E. K. Guinn, McCondy, Miss.; Dr. R. B. Zellers, Hazelhurst, Miss.; Dr. Kostmayer, Dean of Post Graduate School; Dr. A. K. Naugle, West Point, Miss.; Dr. C. M. Gully, DeKalb, Miss.; Dr. U. S. Wasson, Moorhead, Miss.

Middle row, left to right, Dr. J. D. Simmons, Gunnison Miss.; Dr. C. E. Catching, Woodville, Miss.; Dr. Henry G. Waldrop, Dumas, Miss.; Dr. H. F. Byers,

Senatobia, Miss.; Dr. I. B. Seals, Holly Springs, Miss.

Top row, left to right: Dr. N. W. Nanny, Fulton, Miss.; Dr. R. B. Caldwell, Baldwyn, Miss.; Dr. A. L. Majure, Dixon, Miss.; Dr. W. O. Biggs, Osyka, Miss.; Dr. W. W. Irby, Meridian, Miss.

Dr. T. F. Conn, Monticello, Miss., and Dr. W. B. Harpole, Maben, Miss., were absent.

Recently a Mississippi Man reported to a Mississippi Doctor saying, "I have no money, but would like to be examined, I am on the relief, get a work card, but not able to work." He was examined by the doctor. White male age 70, married three times, twenty-one children, fifteen living, nine married, one ran away, five at home, the oldest fifty two, the youngest two years. Refused a mule to make a crop by the Relief, given a work card, required to walk five miles, work eight hours and return. Chief complaint, crippled foot. Left ankle broken many years ago,

and out of place. Blood pressure, S-200, D-110, pulse rate 96, eight teeth left dangling in puffy gums, heavy trace of albumen, some hyaline and granular casts. Refused a mule because he was too old and unable to make a crop, refused relief without work. No doctor's business to examine him, except for the love he gets of doing charity work while he is being shattered with bills he can not pay.—Forgot to say he is mighty stiff until he limbers up in the mornings. He lives about twelve miles from "Any Mayor."

Tuberculosis Abstracts

Medical students and nurses in training face a definite tuberculosis hazard because of frequent exposure to the disease and because, perhaps, of their youth. What can be done to protect them and what advice should one give? A correspondent of the *Journal of the American Medical Association* recently asked whether or not hospitals should receive for training only those applicants with a positive tuberculin reaction. This was answered by summarizing the results of recent investigations and by describing the sequence of events following infection with the tubercle bacillus. The modern conception of the disease merits the attention of every physician, particularly the general practitioner, for it is he who sees the disease in early or pre-symptom stage. Quotations from the article follow.

TUBERCULOSIS IN NURSES

The article cites the findings of Heimbeck of Oslo, Geer of St. Paul, Myers, and Diehl of Minneapolis, Lees of Philadelphia, Shipman and Davis of California, Ross of Manitoba, Jones of New Zealand, Ferguson of Saskatchewan.

"In interpreting the results of various authors who have studied tuberculosis among nurses, one must realize that two types of tuberculosis develop in the human body, the first infection and the reinfection type. The former begins to develop on tissues that are not allergic to tuberculin. The natural defense mechanism of the body brings it under control and has it so encapsulated before allergy can be detected that it does little or no harm in most cases. It is so benign that most persons who have it do not know when it developed. This is the type of tuberculosis that formerly was prevalent among children; but through anti-tuberculosis measures many children now escape it and reach young adult life free from contamination with tubercle bacilli. If they later come in contact with tubercle bacilli, as many students of nursing do, and are not adequately protected against exposure to patients suffering from tuberculosis, they take tubercle bacilli into their bodies. These bacilli find lodgment on tissues that are not allergic and there the tissues react as to a foreign body; in short, the reaction is not specific, and the result is not different than it would have been had their first infection occurred in childhood. In the majority of these cases there is no external manifestation aside from the positive tuberculin reaction.

"In the case of the reinfection type of tuberculosis, the story is quite different. Here tubercle bacilli find lodgment on allergic tissues and a specific reaction follows. This consists of acute inflammation, and if the bacilli are not brought under control in a short time there is necrosis of the tissue as well as stimulation of fixed tissue cells, resulting in fibrosis. This is what is designated 'clinical tuberculosis.' It is the type that results in most of the illness and death from tuberculosis in the human family. Obviously, it can develop only in the bodies of persons whose tissues have previously become allergic to tuberculin through the presence of the first type of tuberculosis. This type of disease may develop soon after the first infection type renders the tissues allergic or at any subsequent time in life, depending

on whether tubercle bacilli are taken into the body from outside sources or whether tubercle bacilli are set free from the foci of first infection already present. In a small number of nurses who become infected for the first time, bacilli are carried to the visceral pleura soon after the first infection occurs, and there on allergic tissue they produce pleurisy with effusion. Likewise from a first infection focus located in or near the central nervous system tubercle bacilli are carried into the ventricles of the brain or directly into the subarachnoid space and on this allergic tissue they produce diffuse tuberculous meningitis. Again the regional lymph nodes, which drain the first infection focus and become a part of the picture of the first infection type of disease, may rupture into a blood vessel and miliary disease results. And so on with numerous other possibilities, once bacilli are lodged in the body. It is possible that the danger of rupture of capsules of primary foci and the rupture of regional lymph nodes involved with tuberculosis is greater soon after the lesions have developed than in subsequent years, since in infancy and early childhood, in places where large numbers of infants are contaminated, tuberculous meningitis and miliary tuberculosis are prevalent and in recently infected students of nursing, pleurisy with effusion is quite common. However, Sweany on the basis of pathologic examinations (*Am. Rev. Tuberc.*, 27:559, June, 1933) has suggested that nature may defeat her purpose in that she first encapsulates tubercle bacilli and in subsequent years resorbs the capsule, thus setting free tubercle bacilli. Therefore there is both an immediate and a remote danger from the first infection type of disease. Moreover, at all times there is the danger of tubercle bacilli from exogenous sources entering the body and finding lodgment on allergic tissues.

"Thus, a large percentage of the cases of tuberculosis reported among students of nursing previously negative to the tuberculin test are only those of the first infection type of disease. In previous times they would not have been known to exist, but now with the tuberculin test and other phases of examination they are detected when no symptoms or physical signs are present. Even those who developed erythema nodosum, probably as a result of a high degree of allergy, would not have been diagnosed tuberculous, because it is only recently that the close association between this condition and the first infection type of tuberculosis has been generally recognized. A few of these students, after developing the first infection type of disease and becoming allergic, have developed chronic pulmonary tuberculosis, pleurisy with effusion, tuberculous meningitis, miliary tuberculosis, and other forms of the reinfection type of disease, just as one would expect. At the same time, wherever observations have been made among those who entered the institutions positive to the tuberculin test some of these have developed the reinfection clinical forms of the disease.

"Unfortunately, after the first infection type of tuberculosis produces allergy there is no way of determining how much contamination enters the body from exogenous sources. It seems reasonable to believe, however that if all the uncontaminated students become infected during their training, those who are already contaminated when they enter are reinfected.

It is a well established fact that tubercle bacilli, whether from endogenous or exogenous sources, are rather quickly fixed in the tissues, where they lodge by inflammation or otherwise. Unlike many pathogenic micro-organisms, they are not destroyed but survive over long periods and often eventually produce clinical tuberculosis. Thus, a period of years may intervene between the reinfection and the development of illness, a period that is not covered by the duration of the course in nursing. Therefore, bacilli sown while in training may result in serious disease years after students have graduated. In fact, Shipman and Davis have found that most of the nurses who developed clinical tuberculosis during training were positive reactors on entrance to the school.

"For any hospital to adopt the policy of admitting to its school of nursing only girls with positive tuberculin reactions, either consciously or unconsciously, would be to avoid the issue. Obviously, there would be no way to determine how much contamination that institution transmits to its students. It would not be in a good position to solve its own problems.

"No hospital is on record as having adopted the policy of admitting to its school of nursing only girls with positive tuberculin reactions. Moreover, if the tuberculosis control program continues, such a hospital would soon find itself without student nurses, as the incidence of positive reactors, already low, is definitely decreasing among girls of the student nurse age. Since there is no possible way of securing a tuberculosis-proof nurse, the other alternative of providing as nearly as possible a bacillus-free environment for the nurse must be accepted."

Tuberculosis in Nurses, Jour. of the A. M. A., Dec. 22, 1934, p. 1968.

Mississippi Valley Medical Society ORGANIZED AT QUINCY, ILLINOIS

A new medical organization to be known as the MISSISSIPPI VALLEY MEDICAL SOCIETY was formally organized at Quincy, Illinois, on April 8. The sole purpose of the new society is to hold an annual meeting each fall devoted to intensive post-graduate instruction and conducted by the leading clinical teachers of the United States. The programs will be eminently practical and of particular interest to the general practitioner.

The society will especially appeal to the physicians of Illinois, Missouri, and Iowa, and the annual meetings will be held in cities on the Mississippi River in these states. The first meeting will be held in Quincy during the month of October or November and will be a three-day session. The society has already been approved by the Adams County Medical Society of Illinois (Quincy), and the Marion-Ralls County Medical Society of Missouri (Hannibal).

The control of the organization is in the hands of a Board of Directors, consisting of one director to each 1000 physicians in the states of Illinois, Missouri, and Iowa. The officers elected to serve for 1935 are:

President, Dr. Walter Stevenson, Quincy, Ill.
President-Elect, Dr. H. B. Goodrich, Hannibal, Mo.
1st Vice-Pres., Dr. H. P. Coleman, Canton, Ill.
2nd Vice-Pres., Dr. E. A. Cunningham, Louisiana,

Missouri.

3rd Vice-Pres., Dr. Wm. Rankin, Keokuk, Iowa.

Secretary-Treasurer, Dr. Harold Swanberg, Quincy, Illinois.

An Advisory Committee, including the following prominent physicians has been elected by the Board of Directors:

Dr. Walter Bierring of Des Moines, President of the A. M. A.

Dr. Allen Pusey, Chicago, Dr. A. D. Bevan, Chicago, Dr. Malcolm Harris, Chicago, Past-Presidents of the A. M. A.

Dr. Charles B. Reed of Chicago, President-Elect of the Illinois State Medical Society.

Dr. E. Lee Miller, of Kansas City, President-Elect of the Missouri State Medical Society.

Dr. Thomas A. Burcham, of Des Moines, President-Elect of the Iowa State Medical Society.

Membership in the society will be open to all ethical physicians, it being a prerequisite that all members hold membership in their respective state medical societies. In order to get started quickly, the Board of Directors has elected to place the membership fee and dues for the first year at only \$3.00 and life membership at \$25.00, provided these are paid before the time of the annual meeting. Charter membership will close July 1, 1935. Members will attend the annual meetings without payment of a registration fee.

The Board of Directors is desirous of securing one thousand physicians as charter members in order to provide a caliber of program at the Quincy meeting that has never been equalled in this section of the Mississippi Valley. Ethical physicians interested in the new organization are urged to communicate with Harold Swanberg, M.D., Secretary-Treasurer, 211-224 W. C. U. Bldg., Quincy, Illinois.

One thing sure, the general practitioner generally speaking must have more money for his services.

The American Medical Association will hold its annual session in June in Atlantic City. It is a delightful place to meet.

Doctor Time is the most successful surgeon who has operated for appendicitis up to the present.

The Roosevelt Memorial Association at Decatur, Alabama is laying plans to construct Alabama's Infantile Hospital as a memorial to our able, deserving and popular president, Franklin D. Roosevelt.

The president of this Association is Mrs. Cora Carter, Guntersville, Alabama, Secretary-Treasurer, Mrs. Andrew G. Findlay, Executive-Secretary, Mrs. Mary A. Wright.

This is a laudable undertaking doing honor to a living man while at the same time proposing to give life and life more abundantly to many others.

We regret very much we were unable to attend the medical meeting at Tyronza on invitation of Dr. L. H. McDaniel. He is a live wire, active, progressive, versatile and a booster for his town, and medical society.

My Prayer

I ask Thee, Lord, not for great wealth or gold,
Or silver or fine jewels without end,
But only as the changing years unfold,
Enough for each day's need, some for a friend:
Perhaps a taste
Of some rare luxury at times of state,
A morsel for the stranger at my gate,
But none to waste.

I ask not leisure as I journey through
The endless years nor days of endless rest,
But give to me some worthy task to do
And courage, Lord, to do it at my best
From day to day,
A task to benefit my fellow men
Through busy hours of usefulness and then
Some time for play.

I ask not honor, nor the world's applause
Nor marble statues, nor undying fame,
But give me, Lord, some friendship without flaws,
Some loyal comrades as I sail life's main.
And at the end
When they shall look upon the worthless clay
Some honest hearts who may sincerely say
He was my friend.

—Doctor X.

Honor

What is the price of honor?" What the cost
Of pride and all that makes the life serene?
The will to rise above the sordid mean;
To let some little selfish gain be lost;
To face temptation and be passion tossed
And still prefer to hold the record clean;
To brave the years and set a line between
The right and wrong which never shall be crossed.

Regardless of what others think, the man
Who good opinion of himself maintains,
The scorn and censure of the world disdains,
For he, who never lowers his standard, can
Face victory or failure undismayed,
Having no past of which to be afraid.

—Edgar A. Guest.

Hope Springs Eternal

Hope springs eternal in the human breast;
Man never is, but always to be blest:
The soul, uneasy and confined from home,
Rests and expatiates in a life to come.
Lo, the poor Indian! whose untutored mind
Sees God in clouds or hears him in the wind;
His soul proud science never taught to stray
Far as the solar walk, or milky way
Yet simple nature to him hope has given
Behind the cloud-topped hill, an humbler heaven.

—Alexander Pope.

Convalescence

I have been down
And touched the strand
Of that unknown
And mystic land;
I felt this poor,
Weak life of mine
Lean hard against
The border line.

I saw the light
That shines afar,
Bright as a sun,
Clear as a star;
And felt the chill
And clammy breath
That mortals give
The name of Death.

I have come back
To know the good
Of human love
And brotherhood;
The tender voice,
The merry smile—
Let me keep life
A little while.

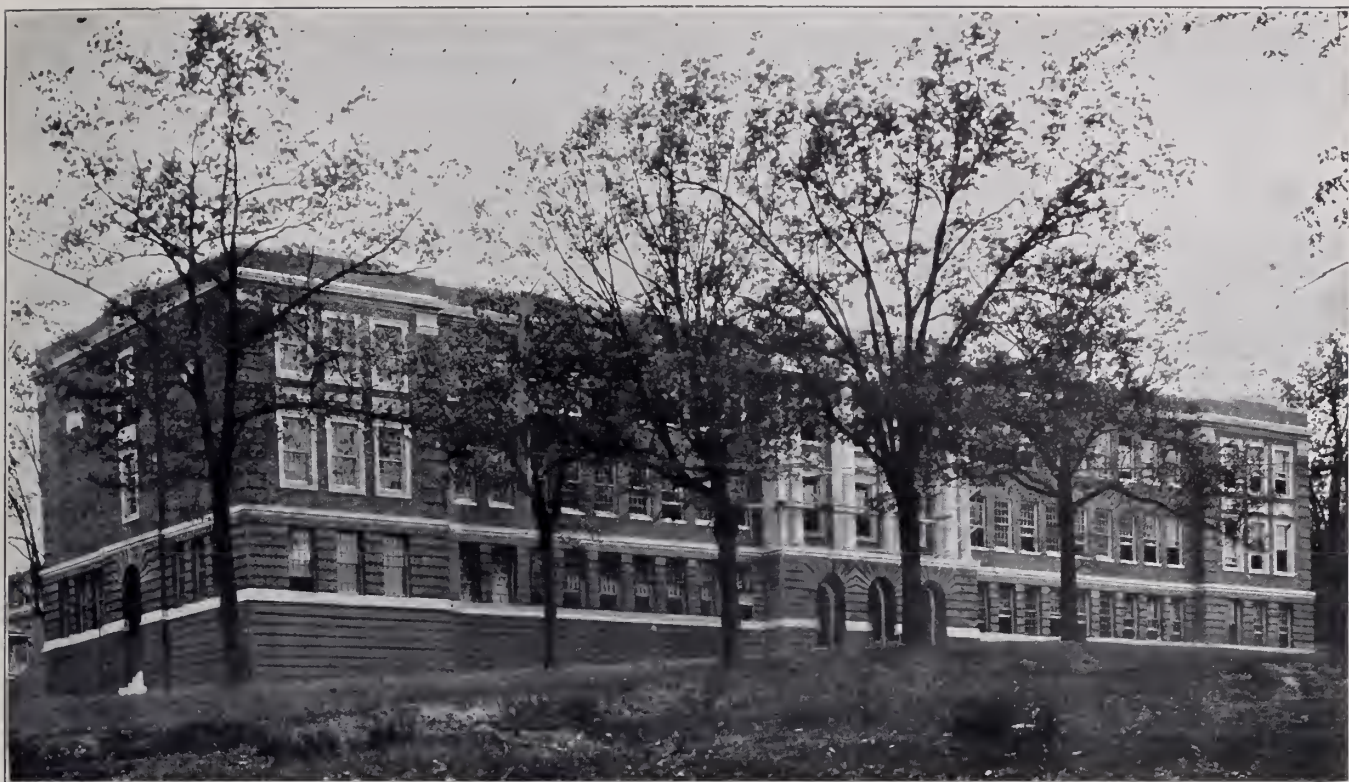
—Lalia Mitchell Thornton.

Book Review

This year there seems to have been an unusual number of books written about the heart, perhaps because heart disease ranks with cancer and pneumonia in the stated causes of mortality which lead in annual reports, and secondly, because it is first in causes listed in the case of physicians. "FAILURE OF THE CIRCULATION," by Dr. Tinsley Randolph Harrison, is a book on the subject which commands more than a passing comment as to its merits. Dr. Harrison is associated in the Vanderbilt School of Medicine and has done a remarkable amount of research on certain phases of the diseased heart, namely, from its circulatory aspects. He presents his studies in amazingly concise and comprehensible manner. In his introductory remarks he defines such terms as "hypokinetic," and "dyskinetic" in practitioner, and even the layman's terms of the syndrome. He then undertakes the series of symptoms, irregular phases, etc., and discusses the interpretation, general management and treatment. His great accomplishment is his extensive study in congestive heart failure.

You will need this book for diagnosis and assistance with cases which present difficulties in heart diseases.

Published by Williams & Wilkins Co., Baltimore,
Price: \$4.50.



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BLUE MOUNTAIN COLLEGE

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No extra tuition charge for courses in commercial subjects or in home economics.

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LAWRENCE T. LOWREY, PRESIDENT

THE NEW FENWICK SANITARIUM

Nervous and Mild Mental Disorders and Drug and Liquor Addictions
COVINGTON, LOUISIANA

OVER FORTY-THREE YEARS OF SUCCESSFUL OPERATION

Doctor, we wish to call your attention to the merits and claims of the above named Institution, especially for Nervous and Mild Mental Disorders—for Drug and Liquor Addictions and Infirmities of Old Age.

This Institution is true to organized medicine and its principles.
It is registered by the American Medical Association.
It is a member of the American Hospital Association.
It is a member of the State Hospital Association.
It is a member of the National Association of Private Psychiatric Hospitals.

The staff of physicians of this Institution are all members or Fellows of the American Medical Association and its subordinate societies. They are physicians, who after having graduated in medicine, have had the best of medical training in the large graduate schools of medicine and hospitals of the East and are especially prepared for their respective specialties. These physicians give their entire time to the patients in the sanitarium doing no outside work.

Its clinical and pathological laboratory is complete and under the supervision of two of the best pathologists in New Orleans.

Correct diagnosis is the key note for the New Fenwick Sanitarium—no half way, and haphazard diagnosis is made here.

The methods of examination are most thorough. Each patient is given a complete Mental, Neurological and Physical examination including all laboratory examinations. Treatment is individual for each according to indications.

The latest and best approved methods of therapy are carried out here at all times.

Hydro-therapy, physio-therapy, electro-therapy and drug-therapy are used as indicated.

The New Fenwick Sanitarium is noted for the individual attention given each patient among pleasant and home-like environments.

This Institution prides itself on the character of nourishment and diet furnished the patients, not only at meal time but otherwise.

For forty-three years it has cared for and brought back to health Mental and Nervous patients, many cases being brought to us from other Institutions.

In the last forty-three years, it has studied and treated many Liquor and Drug Addicts.

The buildings of the New Fenwick Sanitarium are new and constructed especially for the class of patients it treats. They are built of pressed brick, steel and concrete, with every comfort, electric fans, steam heat, etc. All rooms are outside rooms with good ventilation and attractively furnished. The grounds are well kept and inviting with flowers, shrubs, shade trees and rest benches.

This Institution is patronized by the better class of people. Its services are offered to the discriminating physicians for the type of patients named above as a high class Institution in every sense and meaning of the word.

It is located in Covington, Louisiana, a section so noted for its health qualities, and is easily accessible by concrete highways, railroads and water routes. It is only one hour and a half by automobile from the center of New Orleans.





The New York Academy of Medicine

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LONGER THAN ONE WEEK AFTER THE LAST
DATE ON THE SLIP UNLESS PERMISSION FOR ITS
RENEWAL BE OBTAINED FROM THE LIBRARY.

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